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Cooperative ECONOMIC INSECT REPORT

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PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 July 2, 1965 Number 27

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

EUROPEAN CORN BORER feeding damage becoming apparent on corn in some more northern sections. ARMYWORM field populations adversely affected by parasitism and fungus disease in southern Michigan; potential problems considerably lessened. (p. 707). CUTWORMS remain a problem on corn and other crops in scattered areas. (p. 708). CEREAL LEAF BEETLE emergence widespread and activity of summer adults underway in Michigan; large numbers of summer adults emerged in Indiana and numbers increasing. CHINCH BUG populations variable on grains in Ohio, Indiana, Illinois and Oklahoma. (p. 709). GRASSHOPPERS threatening on cropland and grasslands in Oklahoma; increasing on pastures and field crops in Maryland. RED-LEGGED GRASSHOPPER increasing in Minnesota and Wisconsin. Grasshoppers damaging vegetable crops in Oklahoma and Missouri and cotton in Oklahoma and Texas. (pp. 710, 711, 721, 725). ALFALFA WEEVIL remains a problem on alfalfa in several areas, especially in Hudson Valley of New York; reported damaging beans and other vegetable crops in Ohio. New county records reported in New Hampshire, New York and California. (pp. 712, 720). POTATO LEAFHOPPER nymphal populations remain high on alfalfa in Wisconsin and continue to increase in Delaware on several crops; caused heavy damage to beans in New Jersey and Maryland. (p. 714, 720).

PLUM CURCULIO populations high in Indiana and Wisconsin; occurrence of hot weather may result in some problems in Connecticut. (p. 716). Emergence of FRUIT FLIES (Rhagoletis spp.) rather heavy in some Eastern States. (p. 717). ALFALFA LOOPER damaging sugar beets in Wyoming and STRAWBERRY ROOT WEEVIL damaging this crop in Washington. (pp. 720, 721).

BOLL WEEVIL emergence heavy in South Carolina and activity increasing in southern Tennessee; infestations very heavy in several areas of Alabama and increasing in Madison Parish, Louisiana; overwintering weevils more numerous in Arkansas than in 1964. (p. 722). TOBACCO FLEA BEETLE populations approaching economic levels on tobacco in southeast Indiana; damage serious in many fields. (p. 725).

SOUTHERN PINE BEETLE active in epidemic proportions in areas of North Carolina (p. 726), and PINE SPITTLEBUG damaging in Minnesota and Wisconsin (p. 727). ELM LEAF BEETLE defoliation of elms continues over wide area of Nation. Outbreak of a LEAF-MINING WEEVIL (Odontopus calceatus) reported in western counties of West Virginia. (p. 727). TENT CATERPILLARS (Malacosoma spp.) reported active in some Lake States and some Western States. (p. 728). MOSQUITO populations high and annoying in Minnesota; conditions ideal for development of Culex tarsalis with record-breaking populations very likely this summer. Mosquitoes increasing in areas of Colorado and abundant over most of North Dakota; exceptionally abundant and annoying to livestock in Vermont. (pp. 730, 731). HORN FLY heavy on cattle in southeastern Oklahoma. (p. 731). JAPANESE BEETLE adults observed in South Carolina, Maryland, Delaware and Ohio. (p. 733).

DETECTION

The discovery of TOBACCO AND TOMATO CATERPILLAR (Spodoptera litura (F.)) (a noctuid previously in the genus Prodenia which is also known as Egyptian cotton-worm) in Hawaii was reported last week. Information on this important economic pest appeared in CEIR 7(20):385, May 17, 1957, and in the publication Insects Not Known to Occur in the United States, Vol. 7, p. 14, 1957. The presence of this insect nearer to the U.S. mainland should serve as a warning to agricultural officials to maintain a constant vigilance against its possible introduction. Aside from cotton, tobacco, tomatoes and corn, this insect is a general feeder attacking many other hosts.

(Continued on page 706).

New State records reported were PECAN LEAFROLL MITE (Aceria caryae) in Georgia, (p. 718), and PLUM WEB-SPINNING SAWFLY (Neurotoma inconspicua) in Texas (p. 734). New County records reported included: YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) in Lyon and Le Sueur Counties, Minnesota, (p. 707); a WEEVIL (Cosmobaris americana) in Yuba County, California, (p. 709); ALFALFA WEEVIL (Hypera postica) in Yuba County, California, Seneca County, New York, and Grafton County, New Hampshire, (p. 712); SPOTTED ALFALFA APHID (Therioaphis maculata) in Hamlin County, South Dakota, (p. 714); SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) in Mitchell County, Texas, (p. 727); HOLLYHOCK WEEVIL (Apion longirostre) in Butte and Colusa Counties, California, (p. 730); FACE FLY (Musca autumnalis) in Hardin County, Illinois, (p. 731); WHITE-FRINGED BEETLES (Graphognathus spp.) in Greene and Hale Counties, Alabama, and Benton County, Mississippi, (p. 733).

CORRECTIONS

See page 734.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 737).

Interceptions of Special Interest at U.S. Ports of Entry. (p. 738).

Cooperative Survey Entomologists. (p. 740).

Reports in this issue are week ending June 25 unless otherwise indicated.

WEATHER OF THE WEEK ENDING JUNE 28

HIGHLIGHTS: (1) Slightly warmer than last week over most of Nation. (2) Moderate to heavy showers over most of Great Plains. (3) Showers Northeast but more rain needed.

TEMPERATURE: Temperatures averaged slightly below normal over most of the Nation, although most areas were warmer than a week earlier. A small area from northeastern Virginia to eastern Massachusetts averaged more than 10° warmer than the previous week. Afternoon temperatures reached the 70's and 80's over much of the Northwest early in the week but remained in the 60's and 70's during the last few days. Temperatures in the 80's were common in the Northeast at the beginning of the week and near the end. Cooler weather prevailed during the middle of the period. Temperatures reached 90's most afternoons in the South. Sunday was the warmest day over most of the Nation. Ninety-degree temperatures occurred across the Southland from Arizona to the Mississippi River and northeastward across the central Great Plains to Lower Michigan.

PRECIPITATION: Only widely scattered, light showers fell over the Far West. Crop-damaging hail and strong winds accompained some of the moderate to heavy showers in Nevada and Utah. A tornado occurred west of Salt Lake City. Spotty showers and locally heavy downpours fell over the Great Plains from South Dakota to Texas. Some spots in Kansas and Texas received more than 6 inches. Some of the rains produced local flash floods which covered fields and closed roads. Showers also fell over most of the eastern half of the Nation. Pennsylvania received the best showers in several weeks. The light showers Tuesday and Wednesday brought little relief from dryness in Ohio. New Jersey received light spotty showers on Thursday. The drought intensified in parts of New York and although the showers were adequate for sustaining crops in New England, all areas needed more rain. Scattered tornadoes occurred on several days over the Great Plains from North Dakota to Texas. (Summary supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - MICHIGAN - Larval feeding noted on approximately 10 percent of corn plants in 3 fields checked in Monroe County June 22; infestation heavy in Berrien County sweet corn before spraying. (Newman, Belter). ILLINOIS - Pupation underway in southern tip of State. (Ill. Ins. Rpt.). WISCONSIN - Feeding by first-stage larvae more common though seldom exceeding 12 percent; few feeding on tassels of sweet corn near Mazomanie. Blacklight trap collections indicate populations of spring-generation adults higher than normal. (Wis. Ins. Sur.). MINNESOTA - Emergence and egg laying underway in southern half of State. Egg counts low; average per 100 plants by district as follows: Southwest 4.4; west central 2.1, south central and central less than 1. Egg masses found on more advanced fields with taller plants. (Minn. Ins. Rpt.). NORTH DAKOTA - Pupation 44 percent at Cayuga (Sargent County), 40 percent at Walcott (Richland County) and 30 percent at Fargo (Cass County). Adults observed at Walcott and Fargo. (Frye, Thomasson). IOWA - Ten percent leaf feeding and 10 egg masses per 100 plants in Wapello County June 16; corn 30 inches extended height. No leaf feeding or egg masses on 35-inch corn in Benton County. Only tall field corn with 10 newly laid egg masses per 100 plants in Buchanan County; 5 percent of plants showed leaf feeding. In Wayne County, 20 percent leaf feeding observed June 15 on corn 25 inches extended height. At Ankeny, pupation 100 percent, 74 percent emergence and 22 egg masses per 100 plants. In Fremont County, leaf-feeding counts on 300 or more plants showed 61 percent feeding on 33-inch corn, 73 percent on 41-inch corn, 86 percent on 44-inch corn and 92 percent on 48-inch corn. Some treatments used. (Iowa Ins. Inf., June 21). MISSOURI - In northwest district, 5-100 percent of corn plants infested; larvae entering midribs of leaves. In southwest district, 1-2 third and fourth-stage larvae per plant found in unopened tassels or under leaf sheaths of 1-5 plants per 100; in west central district, 1-3 fifth-stage larvae in stalks of 20-30 plants per 100. First-generation moths emerging in Pemiscot County. (Keaster, Harrendorf, Jones). MARYLAND - Whorl and stalk infestations increasing on corn in all sections; ranged 1-25 percent on corn in Frederick and Worcester Counties. (U. Md., Ent. Dept.). NEW YORK - Larvae detected in only 2 percent of plants in untreated check rows of North Star sweet corn at Poughkeepsie; oldest larva in fourth instar by June 24. From cage stocked with about 90 borers, over 60 moths emerged by June 21. Some Macrocentrus spp. (braconids) emerged. Little more moth emergence expected. (N.Y. Wkly. Rpt., June 21). NEW JERSEY - Some adults still appearing in light traps; most of first-brood moth flight over. Continued protection necessary. (Ins.-Dis. Newsltr.). VERMONT - Controls recommended to prevent damage to corn. (MacCollom, June 21).

CORN EARWORM (Heliothis zea) - NEW JERSEY - Few larvae present in tassels, but no problem to ears at silking time anticipated. Few moths still flying; protection at silking necessary for few eggs that will be laid. (Ins.-Dis. Newsltr.). NEW YORK - First instars observed in tassels of sweet corn at Hurley in Hudson Valley June 15; fourth instar by June 21. (N.Y. Wkly. Rpt.). GEORGIA - Light to moderate on peanuts in Tift and Terrell Counties. (Morgan, Snow). ALABAMA - Considerable larval infestations present in localized fields west of Geneva, Geneva County. (Smith). MISSOURI - Late-stage larvae found in whorls of 1-3 plants per 100 in fields of corn in southwest. (Houser et al.). WISCONSIN - Few adults appearing in blacklight traps. Winter survival under proper conditions has been demonstrated in State. (Wis. Ins. Sur.).

ARMYWORM (Pseudaletia unipuncta) - MICHIGAN - High degree of parasitism and fungus disease adversely affecting larval field populations in southern counties. Thus, field problems and possibility of future problems lessened considerably since last report. (See CEIR 15(26):670). Natural enemies usually keep population low in State after early July. (Ruppel, Schroeder, Janes). DELAWARE - Blacklight trap collections indicate adults very numerous. (Burbutis, Woodall).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - MINNESOTA - Light numbers found in corn in Lyon and Le Sueur Counties. (Dowdy). These are new county records. (PPC).

ARMYWORMS - IOWA - Caused considerable damage to corn next to rank brome in Scott County; ranged three-eights to 1.25 inches long. Ranged 3-4 per 10 sweeps in brome in Benton, Linn, Buchanan and Delaware Counties. Parasitism by small wasp and fly apparent. (Iowa Ins. Inf., June 21). MINNESOTA - Light numbers found in field of alfalfa in Winona County. (Minn. Ins. Rpt.).

BLACK CUTWORM (Agrotis ipsilon) - WISCONSIN - Observations and reports indicate scattered infestations continued. Rains in at least one instance caused larvae to move nearer ground surface, allowing for better control. Feeding on leaf surface of 30-inch corn by half-grown larvae observed in one area. (Wis. Ins. Sur.).

CUTWORMS - NEW HAMPSHIRE - Crymodes devastator (glassy cutworm) and climbing cutworms damaged field corn at Walpole, Cheshire County. C. devastator completely destroyed 5 of 13 acres of mixed grasses (mostly timothy) at Walpole; larvae nearly full grown and ranged 5-11 per square foot. (Sutherland, June 18). NEW YORK - Contine damaging corn statewide, but most near pupation. (N.Y. Wkly. Rpt., June 21). MINNESOTA - Scattered reports of damage to corn received from southern third of State. Approximately 2 acres of corn destroyed in field in Freeborn County and replanted; damage also reported in Martin, Redwood, Cottonwood and Renville Counties. Reported damaging soybeans in Redwood County field. Several species involved, but most reports indicate Agrotis ipsilon (black cutworm) predominates. (Minn. Ins. Rpt.). IOWA - A. ipsilon and Feltia subgothica (dingy cutworm) collected in treated field in Mitchell County. Cutworm infestation severe in corn following soybeans at Grinnell; damaged 18-inch corn in Ringgold County. (Iowa Ins. Inf., June 21). GEORGIA - Light feeding by Feltia subterranea (granulate cutworm) evident on foliage of peanuts throughout southern part of State. (Johnson).

STALK BORER (Papaipema nebris) - IOWA - Invading first rows of corn next to lush brome. (Iowa Ins. Inf., June 21). MARYLAND - Light in field corn at Public Landing, Worcester County. (U. Md., Ent. Dept.).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - MARYLAND - Light to moderate in more advanced field corn in Worcester County. (U. Md., Ent. Dept.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ARKANSAS - Moths from first-generation larvae about 50 percent emerged in Desha County. (Ark. Ins. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - MASSACHUSETTS - Small numbers found damaging corn in several fields in western area; however, more abundant than usual. (Wave, June 19).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - MISSOURI - Reported damaging corn in isolated fields in northwest and southeast districts; extent of damage not determined. (Houser et al.). IOWA - Averaged 1 adult per 10 corn plants in eastern area; leaf feeding light. (Iowa Ins. Inf., June 21). WISCONSIN - Feeding on leaves of younger field corn in many areas; easily found in most alfalfa. (Wis. Ins. Sur.). SOUTH DAKOTA - Adult observed in field of wheat near Barnard, Brown County. (Jones).

CORN ROOTWORMS (Diabrotica spp.) - MINNESOTA - Eggs hatching and first-stage larvae found in southwest, south central and central districts. Growers should check corn for larvae and feeding damage during next 2 weeks; average of 10 larvae per plant or 50 percent of roots showing damage indicate postemergence treatment warranted. (Minn. Ins. Rpt.). IOWA - Most D. longicornis (northern corn rootworm) larvae very small at Ottumwa June 16; 10 percent in third and 90 percent in second instars. No hatching observed in Benton County field where D. virgifera (western corn rootworm) numerous in August 1964. Single second-stage D. longicornis larva collected June 16 in Butler County and 2 second-stage larvae collected June 15 in Decatur County. (Iowa Ins. Inf., June 21). OHIO - Population of 13 D. longicornis larvae per 10 plants noted on untreated corn near Hoytville, Wood County. (Davidson).

CEREAL LEAF BEETLE (Oulema melanopa) - MICHIGAN - Widespread emergence and activity of summer adults underway. Approximately 90 percent of field population in Berrien County wheat now adults; first adults from research plots of oats emerged June 17. Field populations in oats approximately 50 percent adults, 50 percent pupae; very few eggs and larvae remain. (Ruppel, Ring, Lovitt). INDIANA - In one area located in St. Joseph and La Porte Counties, egg counts on June 14 revealed late surge of deposition on oats by spring adults; average 3 times higher than earlier samples; 93 eggs per 4 feet of row compared with 30 per 4 feet of row. Little egg deposition noted since that date and nearly all spring adults dead. Large numbers of summer adults emerged from wheat June 20; still increasing. In oats, 50 percent of larvae pupated and peak emergence expected July 1-5. (Wilson).

DESERT CORN FLEA BEETLE (Chaetocnema ectypa) - ARIZONA - Population of 200 per 100 sweeps found in sorghum in Gila Valley of Yuma County. (Ariz. Coop. Sur.).

SEED-CORN BEETLE (Agonoderus lecontei) - NORTH DAKOTA - Severe infestation observed in newly planted field corn near Tower City, Cass County. Hylemya platura (seed-corn maggot) and Melanotus sp. (a wireworm) also present in field but in small numbers. (Dogger).

SUGARCANE BEETLE (Euetheola rugiceps) - ALABAMA - Scattered adult populations damaging 10-acre plot of young corn in Washington County. (Hoomes).

ROSE CHAFER (Macrodactylus subspinosus) - OHIO - Reported infesting field corn near Maumee, Lucas County. Usually not of economic importance on this crop. (Krabeck, Kittle, Blair).

A WEEVIL (Cosmobaris americana) - CALIFORNIA - Adults light in field of oats in Marysville, Yuba County. This is first record for Yuba County. (Cal. Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - INDIANA - Remains light on corn in Harrison and Floyd Counties; of plants checked, 15-28 were infested. (Saugstad). MISSOURI - Light, 10-50 per plant, on early planted corn and grain sorghum in southwest district. Lady beetles plentiful in fields. (Houser et al.). UTAH - Common on spring barley throughout Davis County. (Rogers, Knowlton, June 18). IDAHO - Light, spotted infestation reported in field of barley at Wilder, Canyon County; no predators observed. (Bechtolt, June 11). NORTH DAKOTA - Trace numbers of R. maidis and R. fitchii (apple grain aphid) present in field of barley near Hankinson, Richland County. (Frye, Thomasson).

ENGLISH GRAIN APHID (Macrosiphum avenae) - MINNESOTA - Average counts per 100 sweeps, by district, as follows: South central 20, southeast 60, west central 44, southwest 33, trace in northwest. (Minn. Ins. Rpt.). NORTH DAKOTA - Trace numbers present in most small grain in eastern half of State. (Frye, Thomasson). SOUTH DAKOTA - Small numbers taken in samplings of wheat near Crocker, Clark County, and near Pierpont, Day County. (Jones).

CORN ROOT APHID (Anuraphis maidiradicis) - INDIANA - Ranged 5-25 per root system on 44 percent of corn plants checked in Harrison and Floyd County areas. (Saugstad).

GREENBUG (Schizaphis graminum) - MINNESOTA - Very low in small grains in all districts. (Minn. Ins. Rpt.). NORTH DAKOTA - Averaged 2 per sweep in field of barley near Hankinson, Richland County. (Frye, Thomasson).

CHINCH BUG (Blissus leucopterus) - ILLINOIS - Populations vary zero to several hundred per linear foot in wheat in eastern area. No migration observed or reported. (Ill. Ins. Rpt.). INDIANA - First infestation on corn of season reported in Backford County. (Middleton). OHIO - Infesting field corn in Darke and Mercer Counties; nymphs abundant at bases of stalks in Mercer County. Reported infesting Sudan grass in Pickaway County. (DeBrosse et al.). OKLAHOMA - Moderate infestations reported in grain sorghum in Grady County. (Okla. Coop. Sur.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - MINNESOTA - Adults ranged 20-200 per 100 sweeps in all districts; varied greatly from field to field. Egg hatch and nymphs evident in southern counties. (Minn. Ins. Rpt.). NORTH DAKOTA - Trace numbers observed in small grain and flax in most eastern areas. (Frye, Thomasson).

HESSIAN FLY (Mayetiola destructor) - MARYLAND - Heavily damaged wheat in Prince Georges County field. (U. Md., Ent. Dept.).

WHEAT STEM MAGGOT (Meromyza americana) - SOUTH DAKOTA - Damaged 7 percent of heads of wheat near Gann Valley, Buffalo County. Light damage of 2 percent of heads noted in Brule County and in northern Charles Mix County. (Novotny). DELAWARE - Infesting barley in Kent County. (MacCreary).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Emergence from overwintering plots in south plains area increased; 3 emerged from overwintering plots established in November 1963, but no great emergence of these second-year, diapausing larvae yet occurred; therefore, will probably not greatly influence populations. Nine emerged from head samples of Johnson grass collected in Floyd County; this about 2 weeks earlier than in 1964. (Daniels, Harding, Rummel).

GRASSHOPPERS - IDAHO - Second and third instars of several species moving into cropland-residential property areas from adjoining dry rangelands in Adams, Ada, Canyon, Twin Falls and Payette Counties. (Portman et al.). UTAH - Nymphs appearing generally throughout Box Elder County; especially numerous in Snowville area; numerous in Davis County, especially in foothill areas. (Knowlton, June 18). COLORADO - Numbers very low on rangeland in Livermore and Buckeye areas of Larimer County. (Wellso, Ferkovich). NEW MEXICO - Counts per square yard during period June 14-18 as follows: Cordillacris occipitalis (third instar to adult) and Melanoplus occidentalis (first and second instars) averaged 2 in area 9 miles south of Kenna, Chaves County; C. occipitalis (third instar to adult), Aulocara elliotti (second to fourth instars) and M. occidentalis (first to third instars) 2 in area 2 miles south of Dora, Roosevelt County; Opela obscura (mostly adults) 2 in area 15 miles south of Broadview, Curry County; C. occipitalis (fourth instar to adult), M. occidentlis (adults) and A. elliotti (fourth instar to adult) less than 1 to 2 in area north of San Jon in Porter and Logan areas of Quay County; Phlibostroma quadrimaculatum (fourth instar to adult), Metator pardalinus (adults) and A. elliotti (fourth instar to adult) less than 1 to 5 in McCoy ranch area of Quay County. Counts of less than 1 per square yard found in areas checked in Harding and De Baca Counties. (Seaton). Grasshopper nymphs averaged 2-8 per 25 sweeps in alfalfa in Socorro and Torrance Counties. (Mathews). OKLAHOMA - Populations threatening on approximately 40,000 acres of grassland and cropland in Carter, Murray and Garvin Counties; ranged 10-50 per square yard. Serious damage to alfalfa and Sudan grass evident in valley northwest of Springer, Carter County. Melanoplus bivittatus (two-striped grasshopper), M. packardii (Packard grasshopper), M. occidentalis and Hesperotettix speciosus dominant species; ranged third instar to adult. In southern edge of McIntosh County, migration of M. sanguinipes (migratory grasshopper) adults observed along U.S. Highway 69 and Missouri, Kansas and Texas Railroad; averaged 10 per square yard on 2-mile strip along highway and railroad rights-of-way. In Greer, Kiowa, Jackson and Tillman Counties, rangeland counts ranged 5-15 per square yard; Phlibostroma quadrimaculatum, Hesperotettix viridis, M. bivittatus and Boopedon nubilum dominant species. Grasshoppers ranged 8-10 per square yard on rangeland at locations in Woodward County and 10-30 per square yard in Roger Mills County; P. quadrimaculatum dominant species. Two bands of Dissosteira longipennis (High Plains grasshopper) noted; one each in Beckham and Harmon Counties. Unspecified grasshoppers reported moderate to heavy on rangeland and in alfalfa in Stephens, Bryan, Greer and Delaware Counties; ranged 10-15 per square yard on rangeland in Tillman County. (Okla. Coop. Sur.). KANSAS - Wet weather has been unfavorable for grasshopper hatch, which sould be complete now. Many may have been flooded down river. (Gates, Brooks, June 22). MISSOURI - Melanoplus spp. numbers apparently decreasing in crops and pastures in southwest district, although few reports received concerning damage to new growth of freshly cut alfalfa and to home gardens in area. Ranged 3-15 per square yard in fence

rows and field margins and 0.3 in crops and pastures. (Houser et al.). NORTH DAKOTA - Nymphs ranged 1-2 per square yard in margins and 0-1 per square yard within fields in Richland, Sargent, Dickey, McIntosh and Burleigh Counties. M. bivittatus, M. sanguinipes and M. packardii dominant species. Most in first and second instars; few third and fourth instars found. (Scholl). Nymphs ranged 1-3 per square yard in Bottineau, Pierce, McHenry, Golden Valley, McKenzie, Williams, Divide, Burke and Renville Counties. M. confusus, M. bivittatus and Camnula pellucida (clear-winged grasshopper) dominant species. (Cushing). SOUTH DAKOTA - Grasshopper populations still generally light in all areas checked, except on rangeland in Elk Mountain area, western Custer County; counts generally 6-7 per square yard, but as many as 20 per square yard observed. Ageneotettix deorum dominant species. Grasshoppers mostly first to fourth instars. Grasshopper numbers spotty and light on cropland in Pennington, Lawrence, Butte and Meade Counties; ranged 8-10 per square yard. (Zimmerman). Grasshopper populations remain very low in central northeastern part of State; usually less than 2 per square yard. Species include M. bivittatus and M. sanguinipes. (Burge, Novotny, Jones). MINNESOTA - Weather favorable for egg hatch and survival of first-stage nymphs. Increasing numbers of M. femurrubrum (red-legged grasshopper) eggs hatching; segmented and fully formed eggs general in most areas. Roadside and field margin counts of second and third-stage nymphs scattered but rather high in Fillmore, Dodge, Lyon, Yellow Medicine, Scott and Lac qui Parle Counties; averaged 40 per square yard in field of oats seeded down with alfalfa in Lyon County and extended 2-3 rods into field, with damage very apparent. M. differentialis (differential grasshopper) nymphs averaged 11 per square yard along roadsides in Lac qui Parle County. Counts very low in west central and northwest districts. Grasshopper infestations will be scattered and localized this season. Farmers should check fields for young nymphs; early treatment advisable. (Minn. Ins. Rpt.). WISCONSIN - Nymphal population increased, particularly in recently cut alfalfa. Averaged approximately 15 per sweep in one Rock County field; primarily second and third instars of M. femurrumbrum. Some feeding on adjacent soybeans noted. (Wis. Ins. Sur.). ILLINOIS - Melanoplus spp. nymphs varied 10-260 (averaged about 150) per 100 sweeps in clover and alfalfa in southern half of State. Occasional M. sanguinipes adult also observed. (Ill. Ins. Rpt.). INDIANA - Nymphs of complex of species generally averaged 2-3 per sweep in southern areas; averaged 6 per sweep in some localized areas of southeastern sector. (Huber, Saugstad, White). MARYLAND - Melanoplus spp. nymphs increasing in and around pastures and field crops in Howard, Queen Annes and Wicominco Counties. (U. Md., Ent. Dept.).

SOD WEBWORMS - NEW JERSEY - Adults flying in southern counties. (Ins.-Dis. Newsltr.). IOWA - Damaging corn in field planted to bluegrass for 4 years in Fayette County. (Iowa Ins. Inf., June 21). UTAH - Moths numerous about many lawns in Salt Lake County and at Ogden, Weber County. (Knowlton, Burningham, June 18).

AN ANTHRICID BEETLE (Notoxus sp.) - CALIFORNIA - Adults heavy on pasture grass locally in Fresno, Fresno County. (Cal. Coop. Rpt.).

GROUND MEALYBUG (Rhizoecus falcifer) - CALIFORNIA - Heavy locally on lawn grass in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

CHINCH BUGS - CONNECTICUT - Feeding on lawns in many parts of State. (Savos).

A SPITTLEBUG (Prosapia bicincta) - GEORGIA - Total of 1,489 taken in light trap in Tift County compared with 6,609 previous week. (Beck, Byars). SOUTH CAROLINA - Adults, probably this species, numerous on centipede grass lawns in Horry County. (Nettles et al., June 22). NORTH CAROLINA - Probably this species damaging centipede grass lawn in Lenoir County. Det. by D. A. Mount. (Koonce).

LEAFHOPPERS - FLORIDA - Following species collected in 25 sweeps of ungrazed Para grass at Belle Glade, Palm Beach County, June 21: Draeculacephala portola portola, 7 adults, 2 nymphs; Exitianus exitiosus, 11 adults, 1 nymphs; Deltocephalus flavicosta, 12 adults; Graminella nigrifrons, 73 adults; Balclutha sp., 7 adults. (Mead).

DELPHACID PLANTHOPPERS - FLORIDA - Following species collected in 25 sweeps of ungrazed Para grass at Belle Glade, Palm Beach County, on June 21: Delphacodes propinqua, 20 adults; D. puella, 1 adult; Sogata furcifera complex, 202 adults, approximately 35 nymphs. (Mead).

ALFALFA WEEVIL (Hypera postica) - CALIFORNIA - Adults collected for first time in Yuba County. (Cal. Coop. Rpt.). NEVADA - Larvae and damage heavy in alfalfa in Lamoille, Elko County; several thousand acres treated; some fields being cut early. (Earnist). IDAHO - Larval damage becoming apparent in Saint Anthony area, Fremont County; plants just budding. (Garner, June 15). General throughout Twin Falls County. (Youtz). WYOMING - Heavy damage appearing on uncut alfalfa in Big Horn Basin. Heavy larval numbers present in first crop and in regrowth and crowns of second crop. Larvae ranged 400-700 per 100 sweeps in alfalfa in Big Horn, Washakie and Hot Springs Counties. Larval populations extremely large in Shell area, Big Horn County; ranged 6,500-10,000 (averaged 8,250) per 100 sweeps on standing first crop alfalfa. Pupation underway in Hot Springs County. Harvesting of first crop 80 percent complete in Big Horn Basin area. (Marks). UTAH - Damage becoming conspicuous in Davis County. (Rogers, Knowlton, June 18). COLORADO - Pupating in alfalfa in Weld and Larimer Counties. Parasitism by Bathyplectes sp. evident but variable; as high as 90 percent parasitism recorded. Lady beetles appear to be numerous; Hippodamia spp. and Epilachna sp. noted. Epicauta fabricii (ash-gray blister beetle) also observed. (Simpson). NEW MEXICO - Counts per 25 sweeps in alfalfa ranged 35-40 larvae and averaged 2 adults near Pojoaque, Santa Fe County, and 40-55 larvae and 1 adult near Chimayo, Rio Arriba County. Foliage damage very noticeable. (Heninger). NORTH DAKOTA - Reported in CEIR 15 (25):631 as averaging 3 per 10 sweeps on alfalfa between Golva, Golden Valley County, and Marmarth, Slope County. As collections were made in both counties, Golden Valley constitutes new county record. (Frye). SOUTH DAKOTA - Small numbers present in Harding County. Larvae averaged 50 per 100 sweeps in Camp Crook area with damage light to alfalfa; no damage evident in fields west of Reva where larvae averaged 5 per 100 sweeps and east of Ralph with counts of 3 larvae per 100 sweeps. Larvae ranged second to fourth stages in all areas sampled. (Jones). ILLINOIS - Adults vary 5-32 (average 17.7) and larvae 2-5 (average 3) per 100 sweeps in second-cutting alfalfa in Hardin County. Single adult collected in 210 sweeps in Macoupin County; this is a new county record. (Ill. Ins. Rpt.). INDIANA - Few adults still found in alfalfa in south central and southwest areas; averaged 1-2 per 10 sweeps in some fields. (Saugstad, White). OHIO - Damaging soybean cotyledons in Union County. (Cronin, Wilson, Holdsworth). MICHIGAN - Surveys during May and June failed to yield larval or adult specimens from alfalfa in Monroe and Lenawee Counties. It is highly likely, however, migration into southeast counties may occur during late summer of 1965 or during the 1966 season. (Guyer et al.). NEW HAMPSHIRE - Found on alfalfa in Levanon, Grafton County, June 23. This is a new county record. Larvae infesting 30 percent of terminals in field of alfalfa at Walpole, Cheshire County. (Sutherland, June 18). VERMONT - Continues to damage alfalfa in areas of Bennington and Rutland Counties; pupation underway, few adults present. (MacCollom, June 21). RHODE ISLAND - Feeding apparent in some fields of alfalfa in Jamestown and in Newport County. (King, Peabody). NEW YORK - Continues to ravage alfalfa in lower Hudson Valley where controls not used. Over 1,200 larvae per 25 sweeps not uncommon. Bathyplectes cucurlionis (an ichneumon) taken at release site in Ghent area; 5-10 percent of H. postica larvae parasitized. H. postica light throughout Tompkins, Seneca, Cortland, Schuyler, Tioga and Broome Counties. Some fields in Tioga and Broome Counties severely injured. Seneca is a new county record; see also CEIR 14(40): 1106 for 1964 distribution. Larvae, pupae and adults taken in Delaware County; severe damage noted in southeastern part of county. Pupation continues at increasing rate in Ulster County; earliest pupation producing adults. (N.Y. Wkly. Rpt., June 21). NEW JERSEY - Small larvae still reported at some locations; many adults emerging at others. Destruction of alfalfa sould be ending for most part; however, where many adults just emerged or larvae present in fair numbers, controls should be applied to save second crop. Late outbreaks have occurred, but are rare. (Ins.-Dis. Newsltr.). MARYLAND - Averaged 11 larvae per sweep on second growth alfalfa near Frederick, Frederick County. (U. Md., Ent. Dept.). ALABAMA - Second-generation adults causing some damage to alfalfa in Limestome County. (Agee).

CLOVER LEAF WEEVIL (Hypera punctata) - ILLINOIS - Adults varied 0-20 (average 5.4) per 100 sweeps in clover and alfalfa in southern part of State. (Ill. Ins. Rpt.). INDIANA - Averaged 4 adults per 10 sweeps on red clover in southernmost sections. (Huber, Saugstad).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - ILLINOIS - Adults varied 0-20 per 100 sweeps in clover and alfalfa in southern half of State. (Ill. Ins. Rpt.).

CLOVER HEAD WEEVIL (Hypera meles) - OHIO - Found on soybeans in Auglaize County; apparently moved from pasture nearby. (Brown, Blair).

WHITE-FRINGED BEETLE (Graphognathus spp.) - ALABAMA - Adults medium in field of peanuts south of Hartford, Geneva County. (Smith).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Adults causing light to moderate foliage injury on soybeans in Worcester and Wicomico Counties. (U. Md., Ent. Dept.). MISSOURI - Ranged 1-7 (average 2) per yard of row on soybeans in southwest district. (Houser et al.). ARKANSAS - Numbers still low but increasing in soybeans checked in northeast and central areas. (Ark. Ins. Sur.).

COLASPIS (Colaspis spp.) - MISSOURI - Adults ranged 1-5 per yard of row in soybeans in southwest district. (Houser et al.). ILLINOIS - Adults varied 0-5 per 100 sweeps in clover and alfalfa in southern half of State. (Ill. Ins. Rpt.). INDIANA - Adults common on alfalfa and corn in southern half of State. One report of damage to corn by larvae received from Owen County. (Huber, Lehker, White).

A SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - NEW MEXICO - Adults ranged 0-5 per 25 sweeps in alfalfa in Socorro County (Mathews) and 1-4 in Dona Ana County(Garcia, Gomez).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Adults light to moderate on soybeans in Wicomico and Worcester Counties. (U. Md., Ent. Dept.).

BLISTER BEETLES (Epicauta spp.) - ILLINOIS - Occasional specimens of E. pennsylvanica (black blister beetle), E. fabricii (ash-gray blister beetle) and Epicauta sp. observed in clover and alfalfa in southern half of State. (Ill. Ins. Rpt.). SOUTH DAKOTA - E. fabricii present in all alfalfa sampled past 2 weeks. Counts per 100 sweeps by county as follows: McCook 40, Ziebach 40, Dewey 25, Spink 30, Campbell 48, Brown 40. (Jones). NEW MEXICO - Probably Epicauta sp. averaged 2-3 adults per 25 sweeps in alfalfa near Pojoaque, Santa Fe County. (Heninger).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - Larvae varied 10-60 (average about 25) per 100 sweeps in clover and alfalfa and 10-20 per 100 sweeps in soybeans in southern half of State. (Ill. Ins. Rpt.). MICHIGAN - No adults taken in light traps to June 25; earliest records for State are first week of July. Because of problems on beans in 1964, species to be watched. (Newman). NEW JERSEY - Present in alfalfa for some time. Expected to move to beans at first cutting of alfalfa. (Ins.-Dis. Newsltr.).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Averaged 1-3 first and second-stage larvae per 25 sweeps of alfalfa near Pojaoque, Santa Fe County. (Heninger).

ALFALFA LOOPER (Autographa californica) - WYOMING - Larvae ranged 75-90 per 100 sweeps of alfalfa in Washakie and Hot Springs Counties. (Marks).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Reported moderate in alfalfa in McCurtain County. (Okla. Coop. Sur.). MISSOURI - L. similalis (garden webworm) larvae averaged less than 10 per 100 sweeps in alfalfa in southwest district. Adults numerous in few fields (2-4 per square yard); lighter in most fields in area. (Houser et al.).

PEA APHID (Acyrthosiphon pisum) - WASHINGTON - All stages noted on forage and seed alfalfa; damage not apparent except one heavily infested field. Counts per sweep, as follows: 1-2 at Mabton, Yakima County; 13 at Pasco, Benton County; 1-110 (average 30) at Walla Walla, Walla Walla County. (Halfhill, June 21). IDAHO - General in alfalfa in Twin Falls County but not in damaging numbers. (Youtz). Averaged 2-3 per sweep in Canyon County; lady beetle adults and larvae averaged 1-2 per sweep in these fields. (Bechtolt). WYOMING - Adults and nymphs ranged 600-1,350 (averaged 875) per 100 sweeps in alfalfa in Big Horn, Washakie and Hot Springs Counties. (Marks). NORTH DAKOTA - Some buildup in alfalfa and clover in southeast noted; averaged 30 per sweep in some fields. (Frye, Thomasson). SOUTH DAKOTA - Populations still relatively high in alfalfa in various areas. Samplings per 100 sweeps showed over 2,000 at Camp Crook, Harding County; other counts ranged from 500 to lows of 50 at 13 locations in 10 counties. Lady beetles present at all but one location. (Jones). MINNESOTA - Average counts per 100 sweeps, by district, as follows: South central 92, southeast 110, southwest 209, west central 183, northwest 1,400. (Minn. Ins. Rpt.). WISCONSIN - Slight increase in numbers noted in regrowth alfalfa and peas; counts low on both crops. (Wis. Ins. Sur.). MICHIGAN - Very light in southeast area alfalfa. (Dowdy).

INDIANA - Light throughout southern area; averaged 2-3 per sweep. This represents noticeable increase over past 2 weeks. (Huber, Saugstad, White). ILLINOIS - Populations very low; ranged 5-4,800 (average about 700) per 100 sweeps in clover and alfalfa in southern half of State. (Ill. Ins. Rpt.). MISSOURI - Ranged 10-50 per 10 sweeps in alfalfa in southwest district. (Houser et al.). OKLAHOMA - Ranged 6-50 per 10 sweeps in most alfalfa checked in Roger Mills, Beckham, Dewey, Blaine, Ellis and Major Counties; averaged 380 per 10 sweeps in one Roger Mills County field. (Okla. Coop. Sur.). NEW MEXICO - Mostly light in alfalfa checked near Socorro, Socorro County; Moriarty, Torrance County; Tularosa, Otero County; and throughout Dona Ana Connty. (Mathews et al.). Light to moderate in alfalfa at Pojoaque, Santa Fe County, and at Chimayo, Rio Arriba County. (Heninger). ARIZONA - Averaged approximately 300 per 100 sweeps in alfalfa in Gila Valley of Yuma County. (Ariz. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ILLINOIS - Varied 0-5 per 100 sweeps in southern area. (Ill. Ins. Rpt.). WISCONSIN - Populations increased slightly. Averaged 10 per sweep at location near Brodhead, compared with 6 per sweep previous week; averaged 10 per sweep at another location compared with 4 per sweep previous week. Noticeable increase observed in regrowth alfalfa near Spring Green where populations of T. maculata and T. riehmi (sweetclover aphid) averaged about 30 per sweep near field margin. Some yellow-flowered sweetclover intermixed. (Wis. Ins. Sur.). SOUTH DAKOTA - Recorded for first time from Hamlin County near Lake Norden. Ranged 2-4 per 100 sweeps in alfalfa near Crocker and Naples in Clark County. (Jones). OKLAHOMA - Light in most alfalfa checked in Roger Mills, Backham, Custer, Dewey, Blaine, Ellis and Major Counties. Ranged 0-22 per 10 sweeps in most fields and as high as 60 per 10 sweeps in Roger Mills County. (Okla. Coop. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - MINNESOTA - Counts per 100 sweeps by district averaged as follows: South central 24, southeast 30, central 85; trace in west central, southwest and northwest. Nymphs appearing in southern half of State. (Minn. Ins. Rpt.). WISCONSIN - High nymphal populations persist on alfalfa in scattered fields; adults becoming more common. (Wis. Ins. Sur.). ILLINOIS - Adults varied 40-360 and nymphs 0-40 per 100 sweeps in alfalfa and adults 160-220 per 100 sweeps in soybeans in southern part of State. (Ill. Ins. Rpt.). INDIANA - Adults ranged 3-10 (average 6) per sweep in alfalfa in southeast and east central areas. (Huber). Averaged 2 adults per sweep in Floyd and Harrison County areas. (Saugstad). MARYLAND - Ranged 0-4 per sweep, with some apparent injury, on alfalfa in Frederick County. (U. Md., Ent. Dept.). DELAWARE - Continues to increase in most areas on many crops, including soybeans, alfalfa and clover. (Burbutis, Woodall).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Considerable increase noticeable in 2 fields of alfalfa in Graham County; also increased in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - SOUTH DAKOTA - Large numbers of adults and nymphs observed in alfalfa sampled. Counts per 100 sweeps by county as follows: Perkins 600, Faulk 50-200, Walworth 50, Campbell 120, Brown 50-150, Clark 60, Hamlin 30. (Jones). MICHIGAN - Adults averaged 2 per sweep in alfalfa in several southeast area fields. (Newman). INDIANA - Nymphs averaged 3 per 5 sweeps of alfalfa in southern quarter of State. (Huber, White). NEW YORK - Very common in sweepings on alfalfa throughout State. (N.Y. Wkly. Rpt., June 21).

TARNISHED PLANT BUG (Lygus lineolaris) - NEW MEXICO - Adults ranged 6-10 per 25 sweeps in alfalfa checked near Tularosa, Otero County, (Mathews), and 3 per 25 sweeps in 2 fields in southern Dona Ana County. (Gomez, Garcia). OKLAHOMA - Ranged from less than 1 to 10 per 10 sweeps in alfalfa in northwest and west central areas. Averaged 12 per 10 sweeps in Payne County. (Okla. Coop. Sur.). INDIANA - Nymphs ranged 1-5 per sweep in alfalfa in southern quarter of State. (Huber, White).

MEADOW PLANT BUG (Leptopterna dolabratus) - RHODE ISLAND - Very heavy populations damaged timothy in Cranston and Smithfield, Providence County. (King, Mathewson).

LYGUS BUGS (Lygus spp.) - ARIZONA - Continue heavy on seed alfalfa. Increased in hay alfalfa with counts of 700 adults and nymphs per 100 sweeps noted. Heavy in Graham, Yuma, Pinal, Maricopa and Greenlee Counties. (Ariz. Coop. Sur.). NEW MEXICO - Counts of adults and nymphs per 25 sweeps in alfalfa as follows: 20-40 near Tularosa, Otero County, (Mathews); 12-20 near Deming, Luna County, (Campbell); 5-6 near Carlsbad, Eddy County, (Kloepfer); 14-30 in Dona Ana County (Gomez, Garcia). Ranged 2-8 per 25 sweeps in barley near Socorro, Socorro County and at Moriarty and Estancia, Torrance County. (Mathews). WYOMING - Adults and nymphs ranged 85-164 (averaged 110) per 100 sweeps of alfalfa in Big Horn, Washakie and Hot Springs Counties. (Marks).

FLEAHOPPERS - NEW MEXICO - Abundant in alfalfa in southern Dona Ana County; averaged about 1 adult per sweep in most fields checked. (Garcia, Gomez). ARIZOMA -Light to medium populations of Spanogonicus albofasciatus noted in alfalfa in Graham County; ranged 30-70 per 100 sweeps. (Ariz. Coop. Sur.).

GREEN STINK BUG (Acrosternum hilare) - ARKANSAS - Averaged 2 per 30 feet of row on soybeans in field adjacent to timber in Conway County; none found in fields checked in northeast. (Ark. Ins. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MARYLAND - Adults ranged 0-4 per sweep on alfalfa checked in Frederick County. (U. Md., Ent. Dept.). MICHIGAN - Averaged 3.5 adults per sweep in alfalfa in Monroe and Lenawee Counties. (Newman). INDIANA - Adults ranged from 3 per 10 sweeps to 4 per sweep in southern half of State; heavier populations present in eastern sections. (Huber, Saugstad, White). IOWA - Nymphs half to full grown in alfalfa and red clover; ranged 2-3 adults per sweep and 1 spittle mass per square foot in Benton, Buchanan, Delaware and Linn Counties June 17. (Iowa Ins. Inf.).

THRIPS - DELAWARE - Averaged 4-5 per leaf in several large fields of soybeans in Kent and Sussex Counties. Several species present. (Burbutis, Woodall). MARYLAND - Continue prevalent on young corn and soybeans in all sections. (U. Md., Ent. Dept.). OHIO - Damage to corn leaves evident near Georgetown, Brown County. (Wells, Blair). GEORGIA - Light on peanuts in southern area. (Johnson). NEW MEXICO - Light to very light in alfalfa in Dona Ana and Luna Counties. (Campbell, Mathews). ARIZONA - Chirothrips sp. present on Bermuda grass in Yuma County. (Ariz. Coop. Sur.).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - VERMONT - Egg laying started with advent of warm nighttime temperatures. (MacCollom, June 21). NEW YORK - Flights light in eastern area. Emergence and hatching increased; 38 percent of larvae in 1964

seeded cages emerged in Monroe County. (N.Y. Wkly. Rpt., June 21). MISSOURI - Second brood expected soon. (Wkly. Rpt. Fr. Grs., June 23). ARIZONA - Appearing on apples in parts of State. (Ariz. Coop. Sur.). CALIFORNIA - Medium in plum and pear fruit in Rocklin, Placer County. (Cal. Coop. Rpt.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - CONNECTICUT - Few damaged terminals evident in Glastonbury and New Haven. Abundance very low for past 5 years. (Savos, June 23). NEW YORK - First brood killed number of peach terminals in orchard in Niagara County. (N.Y. Wkly. Rpt., June 21). COLORADO - Adult emergence in peach orcahrds in Mesa County reached peak June 19. (Quist, Bulla).

PEACH TREE BORER (Sanninoidea exitiosa) - MISSOURI - Controls urged. (Wkly. Rpt. Fr. Grs., June 23). COLORADO - Pupating in peach orchards in Mesa County. (Bulla).

LESSER PEACH TREE BORER (Synanthedon pictipes) - MISSOURI - Controls urged in southeast section to prevent injury next season. (Wkly. Rpt. Fr. Grs., June 23).

CHERRY FRUITWORM (Graphlitha packardi) - WISCONSIN - First adults in blacklight trap in Door County June 14. Counts low. (Wis. Ins. Sur.).

OBLIQUE-BANDED LEAF ROLLER (Archips rosaceanus) - NEW YORK - Large numbers of adults appearing in Carpocapsa pomonella (codling moth) bait traps throughout eastern area. (N.Y. Wkly. Rpt., June 21).

FRUIT-TREE LEAF ROLLER (Archips argyrospilus) - WISCONSIN - First adults in blacklight trap in Door County June 18. First high count June 21. (Wis. Ins. Sur.).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - WISCONSIN - Adults emerging in Door County. (Wis. Ins. Sur.).

PLUM CURCULIO (Conotrachelus nenuphar) - CONNECTICUT - Adults still active; one found in Woodstock June 21, more noted June 21 and 22. Predicted hot weather may result in problems for some growers, especially in blocks with history of heavy infestations. Pest appears to be following pattern of 1964, when adults found long past period of activity (first and second cover sprays). (Savos, June 23). NEW YORK - Activity apparently over in Niagara County; egg laying extensive in unsprayed orchards. (N.Y. Wkly. Rpt., June 21). INDIANA - Heavy on apple, apricot, peach, plum and almond trees in Columbia City area, Whitley County. (Matthew). WISCONSIN - Scars on untreated apple fruit in Dane County indicates high population earlier. (Wis. Ins. Sur.).

BROAD-NECKED ROOT BORER (Prionus laticollis) - RHODE ISLAND - First adults of year at Kingston, Washington County. (Hyland, Mathewson).

APPLE APHID (Aphis pomi) - NEW YORK - Light numbers colonizing in Clinton County. (N.Y. Wkly. Rpt., June 21). CONNECTICUT - Active on fruit. (Savos). WISCONSIN - Increasing on untreated apple foliage in Madison area. Probably this species building up on plum in Grant and Fon du Lac Counties. (Wis. Ins. Sur.).

ROSY APPLE APHID (Anuraphis rosea) - NEVADA - Heavy and causing severe leaf curl on apple in southern Washoe County. (Bechtel, Gallaway).

BLACK CHERRY APHID (Myzus cerasi) - IDAHO - Infesting cherry tree in Sandpoint area. (McPherson).

SAN JOSE SCALE (Aspidiotus perniciosus) - UTAH - Severe on neglected trees in some stone fruit orchards in Salt Lake County. (Knowlton, Burningham, June 18). SOUTH CAROLINA - Serious on plum in Aiken County. (Nettles et al., June 22).

PERIODICAL CICADAS (Magicicada spp.) - OHIO - Activity over in southern and southeastern sections except for small areas. Flagging most evident now. Adults continue active in northern section of Brood V emergence area. (Rose).

TARNISHED PLANT BUG (Lygus lineolaris) - NEW YORK - Apparently more than usual number in Orleans County peach orchards. (N.Y. Wkly. Rpt., June 21).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - RHODE ISLAND - Larvae heavy in apple fruit in orchard in Kingston, Washington County. (Mathewson, Shutak).

PEAR-SLUG (Caliroa cerasi) - INDIANA - Injuring cherry trees in Osgood, Ripley County. (Lehker). NEVADA - Larvae appearing on pear trees in Reno, Washoe County. (Headrick).

CHERRY FRUIT FLIES (Rhagoletis spp.) - NEW YORK - Emergence of R. fausta (black cherry fruit fly) heavy and continuous through June 16 in western area; no R. cingulata (cherry fruit fly) captured in cages to June 21. Adult R. cingulata increasing in Monroe County; emerged June 16. First emergence in cage near Middleport, Niagara County, June 21. (N.Y. Wkly. Rpt.). PENNSYLVANIA - R. cingulata started emerging in Erie County June 11. (Cox). WISCONSIN - R. fausta adults noted in Door County June 17. Adult, probably R. cingulata, taken in blacklight trap at Madison. (Wis. Ins. Sur.).

APPLE MAGGOT (Rhagoletis pomonella) - CONNECTICUT - No adults collected in emergence cages. First flies should emerge during next 2 weeks if pattern same as in 1964. (Savos, June 23). NEW YORK - Emergence in cages began June 9 at Highland; began June 14 in Columbia County. (N.Y. Wkly. Rpt.).

PEAR MIDGE (Contarinia pyrivora) - NEW YORK - Appearing in some orchards in Oswego County. (N.Y. Wkly. Rpt., June 21).

EUROPEAN RED MITE (Panonychus ulmi) - VERMONT - Populations increasing, even in sprayed blocks. (MacCollom, June 21). CONNECTICUT - Small populations found; few adults and some eggs present. (Savos, June 23).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CONNECTICUT - Small populations present but causing no problems; few adults and some eggs found. (Savos).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Unusual numbers continue in Miami area, Dade County; 150-200 adults per trap fairly common. Special survey continues and indicates gradual spread in most directions. (Fla. Coop. Sur.).

A SNOW SCALE (Unaspis citri) - FLORIDA - Special survey reveals occasional heavy infestation in citrus groves and nurseries. (Fla. Coop. Sur.).

COTTONY-CUSHION SCALE (Icerya purchasi) - CALIFORNIA - Locally heavy in citrus trees in Glenn, Glenn County. (Cal. Coop. Rpt.).

BROWN SOFT SCALE (Coccus hesperidum) - CALIFORNIA - Adults heavy on citrus nursery stock in Marysville, Yuba County. (Cal. Coop. Rpt.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Treatment underway in some groves in Yuma area, Maricopa County. (Ariz. Coop. Sur.).

BLUEBERRY MAGGOT (Rhagoletis mendax) - NEW JERSEY - Adults very heavy in traps in New Lisbon and Sheep Pen Hill areas. Careful treatments urged. (Ins.-Dis. Newsltr.).

GRAPE SAWFLY (Erythraspides vitis) - NORTH CAROLINA - Larvae damaging grape planting in Montgomery County June 18. Det. by D. A. Mount. (Garriss).

GRAPE BERRY MOTH (Paralobesia viteana) - MISSOURI - Second brood appearing. (Wkly. Rpt. Fr. Grs., June 23).

HICKORY SHUCKWORM (Laspeyresia caryana) - GEORGIA - Larvae moderate and entering shucks of pecans in Randolph County. (Tedders).

WALNUT CATERPILLAR (Datana integerrima) - GEORGIA - Light on pecans in Hancock County. (Livingston). OKLAHOMA - Light on pecan trees in Stillwater area, Payne County. (Okla. Coop. Sur.).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Heavy on pecans in McCurtain County. (Okla. Coop. Sur.). NEW MEXICO - Detection surveys in Mesilla Valley of Dona Ana and Sierra Counties negative. (Garcia, Gomez).

FALL WEBWORM (Hyphantria cunea) - GEORGIA - Light and general on pecans throughout State. (Livingston, Johnson). OKLAHOMA - First infestations of year on pecan trees in Lincoln, Pottawatomie, Payne and McCurtain Counties. (Okla. Coop. Sur.). TEXAS - Light on pecans in Caldwell, Comal, Guadalupe and Hays Counties. (Texas Coop. Rpt., Massey).

SALT-MARSH CATERPILLAR (Estigmene acrea) - TEXAS - Damaging pecan foliage in Glasscock County. (Neeb).

APHIDS -ALABAMA - Yellow species infesting pecans in central and south sections. Heavy only in Mobile County. (Bagby et al.).

BLACK-MARGINED APHID (Monellia costalis) - ARIZONA - Continues heavy and damaging on pecan trees and nearby ornamentals in Graham County. Control results good. (Ariz. Coop. Sur.). NEW MEXICO - Mostly very light to light, occasionally heavy, on pecan trees in Dona Ana and Sierra Counties. (Garcia, Gomez). OKLAHOMA - Averaged 4 per leaf on pecan trees checked in McCurtain County. (Okla. Coop. Sur.).

AN ERIOPHYID MITE (Eriophyes sp.) - NORTH CAROLINA - Rolling edges of pecan leaves in Wilson and Lenoir Counties. (Lewis, Koonce).

PECAN LEAFROLL MITE (Aceria caryae) - GEORGIA - Collected from leaves of pecan on farm in Coweta County on May 17 by R. L. Livingston. Det. by R. Davis. This is a new State record. Additional collection made by R. L. Livingston in Athens, Clarke County on June 19. Det. by J. Buttram. This constitutes a new county record. (Johnson). OKLAHOMA - Light on pecan trees in Payne and McCurtain Counties. (Okla. Coop. Sur.).

PECAN SPITTLEBUG (Clastoptera achatina) - ALABAMA - Light locally on pecans in southern Mobile County. (Deakle).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - RHODE ISLAND - Larvae active on potatoes in West Kingston, Washington County. (Stessel, Mathewson). NEW JERSEY - Adults again emerging; egg laying expected. (Ins.-Dis. Newsltr.). MARYLAND - Light to moderate on tomatoes checked in Worchester County. (U. Md., Ent. Dept.). INDIANA - Adults averaged 3 per plant on potatoes in one area of Washington County. Plants 25-30 percent defoliated. (Huber). OKLAHOMA - Larvae and adults moderate on potatoes checked in Dewey County. (Okla. Coop. Sur.). UTAH - Necessitated controls on tomatoes and potatoes in southern Weber County. (Dorst, Knowlton, June 18). IDAHO - Eggs present on volunteer potatoes in Saint Anthony area since late May. Egg laying general on commercial potato plants June 14. (Garner). Adults and larvae general in Canyon and Twin Falls Counties. (Bechtolt, Youtz).

BLISTER BEETLES - OKLAHOMA - Moderate on tomatoes in Delaware County and heavy in gardens in Choctaw County. (Okla. Coop. Sur.).

POTATO FLEA BEETLE (Epitrix cucumeris) - NORTH DAKOTA - Damage moderate on potatoes near Grand Forks. (Brandvik). MAINE - Generally light on untreated potato plants near Presque Isle, Aroostook County. (Shands et al.).

STRIPED FLEA BEETLE (Phyllotreta striolata) - WYOMING - Large numbers damaging potatoes and tomatoes in gardens at Worland, Washakie County. Light, spotty damage to sugar beets in Big Horn, Washakie and Hot Springs Counties. (Marks).

GREEN PEACH APHID (Myzus persicae) - WASHINGTON - Apterae and alates increasing rapidly on potatoes, sugar beets, other crops and weeds in eastern section. (Landis, June 21).

POTATO APHID (Macrosiphum euphorbiae) - MARYLAND - Light to moderate on tomatoes checked in Worchester County. (U. Md., Ent. Dept.). RHODE ISLAND - Building up in potatoes in West Kingston, Washington County. (Stessel, Mathewson).

Aphids on Potatoes in Maine - Infestation of untreated potato plants at Presque Isle, Aroostook County, varies with location and age. From 1-22 percent (average 6.7) of 1-4 inch high plants infested; 32 percent of 5-6 inch high plants infested at one location. POTATO APHID (Macrosiphum euphorbiae) predominant, followed by BUCKTHORN APHID (Aphis nasturtii) and GREEN PEACH APHID (Myzus persicae). Spring migrations still in progress. (Shands et al.).

TOMATO PINWORM (Keiferia lycopersicella) - CALIFORNIA - Larvae heavy, damaging leaves, twigs and fruit of tomatoes in Chula Vista, San Diego County. (Cal. Coop. Rpt.).

BUFFALO TREEHOPPER (Stictocephala bubalus) - IOWA - Nymphs feeding on and killing tomato plants in Calhoun County. (Iowa Ins. Inf., June 21).

MITES - TEXAS - Unspecified spider mite heavy on tomatoes over wide area of State. (Texas Coop. Rpt.). OKLAHOMA - Damaging tomatoes and other vegetables in Payne and Murray Counties. (Okla. Coop. Sur.). NEW JERSEY - Spotted species very high on young cantaloupe plants. (Ins.-Dis. Newsltr.).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - Larval feeding light but unprotected crucifers may be injured. (N.Y. Wkly. Rpt., June 21). NEW JERSEY - Found on cabbage and other cole crops. (Ins.-Dis. Newsltr.).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Present on cabbage in eastern Kent County. (Burbutis). ARIZONA - Feeding on watermelon vines in Maricopa County. (Ariz. Coop. Sur.).

CABBAGE APHID (Brevicoryne brassicae) - CALIFORNIA - Heavy on cabbage in Princeton, Colusa County. (Cal. Coop. Rpt.).

CABBAGE MAGGOT (Hylemya brassicae) - NEW YORK - Caused considerable concern throughout State; controls recommended. Found in treated seedbeds in Ontario County. Continues heavy in most parts of Niagara County. Activity lessening in Wayne County. (N.Y. Wkly. Rpt., June 21). MICHIGAN - Larvae heavy in radish research plots in Ingham and Clinton Counties. (Wells). WASHINGTON - Damaging German radish at Prosser, Benton County. (Gerlitz, June 21).

A FLEA BEETLE (Phyllotreta cruciferae) - DELAWARE - Common on horseradish in one area of Kent County. (Boys).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NEW HAMPSHIRE - Active on string beans at Newmarket. (Blickle). NEW YORK - Adults feeding on beans in central area; inspections urged. (N. Y. Wkly. Rpt, June 21). MARYLAND - Light but increasing in 20-acre bean field in Worchester County. (U. Md., Ent. Dept.). GEORGIA - Light to moderate on beans in south section. (Johnson). COLORADO - Overwintered adults appeared in beans in Weld and Larimer Counties. (Urano, Simpson, Daniels). MISSOURI - Light, one per 2 plants, on garden beans in Lawrence County. (Houser et al.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSOURI - Adults ranged 1-3 per plant on garden beans in Lawrence County. (Houser et al.).

COWPEA CURCULIO (Chalcodermus aeneus) - GEORGIA - Heavy on crowder peas in Turner County. (Johnson).

ALFALFA WEEVIL (Hypera postica) - OHIO - Adults reported damaging beans and other vegetables in Tuscarawas County. (Cronin et al.).

POTATO LEAFHOPPER (Empoasca fabae) - NEW JERSEY - Causing considerable damage to beans. (Ins.-Dis. Newsltr.). MARYLAND - Nymphs heavy and damaging snap beans and potatoes in Wicomico County. (U. Md., Ent. Dept.). WISCONSIN - Populations of nymphs and adults unchanged on lima beans in Rock County. (Wis. Ins. Sur.).

GREEN CLOVERWORM (Plathypena scabra) - NEW JERSEY - Damaging beans extensively in south section. (Ins.-Dis. Newsltr.).

THRIPS - NEW JERSEY - Killed some young bean plants in south section. Present on many crops. (Ins.-Dis. Newsltr.). MARYLAND - Heavy on beans, cucurbits and tomato blossoms on Eastern Shore. (U. Md., Ent. Dept.).

PEA APHID (Acyrthosiphon pisum) - WISCONSIN - Increasing slightly in peas. (Wis. Ins. Sur.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - NEW JERSEY - High population found on young lima beans. (Ins.-Dis. Newsltr.). ARIZONA - Continues injury to melons in Yuma County. (Ariz. Coop. Sur.).

PEA LEAF MINER (Liriomyza langei) - CALIFORNIA - Severe in garbanzo beans in Portuguese Bend, Los Angeles County. (Cal. Coop. Rpt.).

ASPARAGUS BEETLES (Crioceris spp.) - RHODE ISLAND - C. duodecimpunctata (spotted asparagus beetle) adults extremely heavy at East Greenwich, Kent County; C. asparagi (asparagus beetle) much less abundant. (Hannah, Mathewson, Sorensen). NEW YORK - C. asparagi and C. duodecimpunctata feeding on asparagus foliage; controls recommended. (N.Y. Wkly. Rpt., June 21). WISCONSIN - C. duodecimpunctata high on asparagus in Clark County. (Wis. Ins. Sur.).

ONION MAGGOT (Hylemya antiqua) - NEW YORK - Severe in some onion fields in Orange County. (N.Y. Wkly. Rpt., June 21). NEW JERSEY - Sticky boards at Cedarville trapped 136 adults on 6 boards June 21. (Ins.-Dis. Newsltr.). NORTH DAKOTA - Severe on onions at Fargo, Cass County. (Haynes). COLORADO - Damaging untreated onion fields in Ault area, Weld County. (Urano). UTAH - Moderate infestations reported in onion patches in Davis County. (Knowlton, June 18). WASHINGTON - Damaging onions at Prosser, Benton County. (Gerlitz, June 21).

CUTWORMS - NEW YORK - Caused much concern and substantial damage in spring; now pupating. Euxoa spp. primarily involved; reoccurrance of cutworms not expected. (N.Y. Wkly. Rpt., June 21). UTAH - Unspecified species damaged several acres of young sugar beets in Bear River City area of Box Elder County. (Knowlton, Finch, June 18).

VARIEGATED CUTWORM (Peridroma saucia) - CALIFORNIA - Larvae medium in sugar beets in Santa Maria, Santa Barbara County. (Cal. Coop. Rpt.).

ALFALFA LOOPER (Autographa californica) - WYOMING - Damage moderate to heavy to sugar beet plants in Washakie County area. Infested areas averaging 2-3 larvae per plant; controls recommended. (Marks).

BEET WEBWORM (Loxostege sticticalis) - WYOMING - Eggs numerous on sugar beet leaves in Big Horn, Washakie and Hot Spring Counties. No larvae taken. (Marks).

WHEAT WIREWORM (Agriotes mancus) - NEW YORK - Severely damaged 10-acre sugar beet planting in Auburn area, Cayuga County. (N.Y. Wkly. Rpt., June 21).

BEET LEAFHOPPER (Circulifer tenellus) - UTAH - Averaged less than 0.1 per foot of row in sugar beets in central and northern areas of State; averaged 0.12 per foot of row in eastern area. Curly top averaged 2 percent on market tomatoes in "Dixie" area of Washington County. (Dorst, June 18).

SPINACH LEAF MINER (Pegomya hyoscyami) - RHODE ISLAND - Extensive mining in beet leaves in Wakefield, Washington County. Eggs present. (Mathewson). WYOMING - Larvae numerous in sugar beet leaves in Big Horn, Washakie and Hot Springs Counties. (Marks). UTAH - Infesting chard in Salt Lake County fields. (Burningham, Knowlton).

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - NORTH DAKOTA - Adults abundant around sugar beets in Walsh County. (Dogger). COLORADO - Larvae damaging untreated sugar beets northeast of Greeley. (Boyes). Total of 4 adults caught in bait trap in Larimer County during week. Adult activity has reached peak. (Gaskill, Jenkins).

CUCUMBER BEETLES - WISCONSIN - Acalymma vittatum (striped cucumber beetle) heavy on foliage of commercial squash planting in southern Dane County. Diabrotica undecimpunctata howardi (spotted cucumber beetle) less common on cucurbits. (Wis. Ins. Rpt.).

SQUASH VINE BORER (Melittia cucurbitae) - GEORGIA - Damaging squash in Warren and Clark Counties. (Gates). TEXAS - Heavy locally and damaging squash in San Jacinto County. (Jackson).

STRAWBERRY APHID (Chaetosiphon fragaefolii) - NEW JERSEY - Flights in strawberry beds about over. (Ins.-Dis. Newsltr.).

CUTWORMS - MASSACHUSETTS - Damaging ripening strawberries statewide where no controls applied earlier. (Wave, June 19).

SLUGS - NEW HAMPSHIRE - Damaging strawberries in Sullivan County. (Southerland).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - MARYLAND - Adults ranged 1-3 per plant on sweetpotatoes checked in Worchester County. (U. Md., Ent. Dept.).

STALK BORER (Papaipema nebris) - DELAWARE - Larvae common in rubarb in New Castle County. (Burbutis).

SEED-CORN MAGGOT (Hylemya platura) - NEW JERSEY - Sticky board traps at Cedarville caught 374 adults on 6 boards June 21. (Ins.-Dis. Newsltr.).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - WASHINGTON - Moderate to heavy in small areas of 40-acre sugar beet field at Prosser, Benton County. Averaged 15-25 adults per plant in infested areas. (Cone, June 21).

STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) - COLORADO - Larvae quite noticeable in several home gardens in Twin Falls County. (Youtz).

SQUASH BUG (Anasa tristis) - OKLAHOMA - Moderate to heavy on commercial watermelons and cantaloupes in Jefferson County and on squash in home gardens in Nobel, Payne, Stephens and Murray Counties. (Okla. Coop. Sur.).

GRASSHOPPERS - MISSOURI - Melanoplus spp. caused light to heavy damage in gardens in southwest district. (Hamm). OKLAHOMA - Several species damaging vegetable gardens in Bryan, Murray and Delaware Counties. (Okla. Coop. Sur.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Ranged 18-65 (average 43) percent punctured squares in 4 untreated or poorly treated fields of cotton in Robeson County; ranged 2-4 percent in 3 treated fields. Infestations ranged 10-80 (average 42) percent punctured squares in 5 untreated fields in Bladen County; averaged 8 and 10 percent punctured squares in 2 fields treated 2-3 times. Punctured squares averaged 46 percent in untreated Cumberland County field. (Mount). SOUTH CAROLINA - Emergence continues heavy in Florence area. Infestations in untreated plots and in inadequately treated fields continue to increase. Larval infestations range 0.9-5.3 percent in treated plots and 7.0-28.0 percent in untreated plots. (Taft et al., June 23). Emerged from hibernation in record numbers; only 2 upper Piedmont counties failed to report this cotton pest. Square infestation counts of 10-50 percent not uncommon; ranged as high as 90-100 percent in some unsprayed fields. (Cott. Ltr., June 21). TENNESSEE - More activity observed in southern counties than at any time this season. Percent punctured squares relatively high where fruiting cotton has squares large enough for weevils to reproduce. As squares are now scarce, counts do not give proper indication of what infestations really are. (Locke). GEORGIA - Percent punctured squares ranged 0-33 (average 7) in 25 southern area cotton fields (Johnson); ranged 0-5 percent in 8 fields checked in Colquitt and Terrell Counties. (French). ALABAMA - Infestations very heavy in coastal, central and western counties, and as far north as Cherokee, Calhoun, Talladega, Tuscaloosa, Pickens and Fayette Counties. Reports indicate light counts in southwest as compared with other areas. "Hatch outs" reported heavy in most affected areas, especially in southeast. (McQueen). MISSISSIPPI - Light infestations found in several fields in delta counties numbers heavier in some fields but these scattered occurrences. (Pfrimmer et al., June 24). Infestations in hill section higher than usual for time of year. Many growers applying controls for overwintering weevils, especially in older cotton where weevils concentrating. Movement from overwintering quarters about over. Reports indicate general first "hatch out" will occur during first week of July. (Young, Bennett, June 28). LOUISIANA - Infestations increasing in some fields in Madison Parish; ranged 0-44 (average 11) percent in 32 fields. Of 70 fields examined for overwintering weevils, 42 fields found infested. Averaged 560 weevils per acre in 9 fields and ranged 10-100 per acre in remainer of fields. Total of 49 weevils recovered from 50 trap plants near hibernation quarters, compared with 130 weevils previous period. (Cleveland et al., June 24).

ARKANSAS- Overwintering weevils more numerous than in 1964. Punctured squares zero to very low except in few fields near favorable hibernation quarters. In a Cross County field with 26,000 squares per acre, punctured squares averaged 9 percent. Punctured squares 13 percent in Conway County field with 18,000 squares per acre. Both fields average 58 weevil per acre and both fields near favorable hibernation quarters. (Ark. Ins. Sur.). TEXAS - Found in 9 of 26 treated fields and 2 of 3 untreated fields in McLennan and Falls Counties; averaged 55 per acre in untreated fields (maximum count 250), overall average 50 per acre. Percent punctured squares averaged 1.6 in 17 treated fields and 3.6 in 5 untreated fields. No weevils emerged from hibernation cages and none collected on flight screens. (Cowan et al.). Overwintered weevils observed in 12 fields in Dickens and Kent Counties; first of season reported from Briscoe County; ranged 44-66 per acre in Motley County; reported from 15 rolling plains counties; heavy in one field in Wichita County but generally light over area. Infestations very light and scattered in Brazos, Grimes, Washington, Burleson, Brazoria, Fort Bend, Walker, Madison, Houston and Red River Counties. Counts ranged 3-20 percent in Guadalupe and Comal Counties; heavy in Wharton and scattered areas of Walker Counties; numbers light in Kinney County. Infestations increased in most Rio Grande Valley fields with local showers continuing to buildup. (Texas Coop. Rpt.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Light infestations observed in inadequately treated fields in Florence area. Larval infestations ranged 0.4-3.4 percent in treated plots and 0-2.3 percent in untreated plots. Total of 12 H. zea (bollworm) taken in light trap week ending June 23; no H. virescens (tobacco budworm) adults taken. (Taft et al.). Infestations scattered and mostly light in Coastal Plain area. Heavy infestations reported in Barnwell and Claredon Counties. (Cott. Letr., June 21). TENNESSEE - Occasional larva found in some older cotton in western area. (Locke). GEORGIA - Egg counts ranged 0-9 (average 3) and larvae ranged 0-6 (average 4) per 100 terminals. (Johnson, June 23). Larvae ranged 0-3 per 100 terminals in Colquitt and Terrell Counties. (French). ALABAMA - Egg counts lower than previous week; larvae exceeded 4 per 100 terminals in only 3 counties. (McQueen). MISSISSIPPI - Very few eggs and few larvae found on cotton in delta counties. Some square injury found but populations generally low. Moth flight low; should remain so for about another 7 days. Majority of larvae collected in Stoneville area during June determined as H. virescens. (Pfrimmer et al., June 24). H. zea and H. virescens generally very light over State; medium infestations reported in few isolated fields in Bolivar, Copiah, Calhoun and Lowndes Counties. (Young, Bennet, June 28). LOUISIANA - Infestations light in most fields examined in Madison Parish. Of 20 fields examined, eggs averaged 2 per 100 terminals in 10 fields and larvae averaged 3 per 100 terminals in 7 fields. (Cleveland et al.). ARKANSAS - Total of 34 H. zea and 11 H. virescens collected on sugar lines in cotton in Desha County during period June 17-23. H. virescens comprised 24.4 percent of collections and is higher than generally occurs. (Ark. Ins. Sur.). TEXAS - Infestation in cotton in McLennan and Falls Counties remains light, with only occasional field requiring treatment. Eggs averaged 0.9 and larvae 0.7 per 100 terminals in 45 treated fields and 0.4 eggs and 0.1 larva per 100 terminals in 11 untreated fields. Square injury averaged 1.7 percent in 22 fields. (Cowan et al.). Light, scattered numbers reported in Dickens, Kent and Schleicher Counties; populations light in Milam, Hill, Limestone, Collin, Grayson, and Kaufman Counties with egg laying increasing. Light, local infestations noted in Brazos, Burleson, Grimes, Washington, Kinney and Pecos Counties. Numbers increased in most Rio Grande Valley fields. (Texas Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - SOUTH CAROLINA - Light infestations noted in inadequately treated fields in Florence area. (Taft et al., June 23). Some light infestations noted. (Cott. Letr., June 21). ARIZONA - All larval stages present on cotton in Gila Valley in Yuma County; average 30 per 100 sweeps. Infestations scattered through Pinal County. (Ariz. Coop. Sur.).

BEET AMRYWORM (Spodoptera exigua) - TEXAS - Light on cotton in Dickens County (Rummel) and in many rolling plains counties. (Boring). CALIFORNIA - Populations low in many fields of cotton in Fresno County, but numbers generally insufficient to require controls. (Ferris, June 16). An economic population observed on cotton in Tulare Lake area of Kings County, with egg masses to medium sized larvae evident. (Burton, June 15).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - TENNESSEE - Noted in many cotton fields in western area but no damage noted. (Locke). TEXAS - Light, local numbers observed on cotton in many rolling plains fields. (Boring).

STALK BORER (Papaipema nebris) - TENNESSEE - Occasional infested cotton plant found along outer edges of some fields in southern counties. (Locke). TEXAS - Damaged terminals of some plants in several fields in McLennan and Falls Counties; averaged 2.1 per 100 terminals in 22 treated fields and 0.8 per 100 terminals in 6 untreated fields. (Cowan et al.).

COTTON SQUARE BORER (Strymon melinus) - TEXAS - Light, local populations reported on cotton in Guadalupe, Hill, Williamson and Kaufman Counties. (Texas Coop. Rpt.).

GARDEN WEBWORM (Loxostege similalis) - TENNESSEE - Found on cotton terminals in northern portion of cotton-growing area; damage considered light. (Locke).

CUTWORMS - TEXAS - Reported to have ruined several stands of cotton in Scurry and Cottle Counties. (Boring).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Larvae ranged 100-450 per acre in Maverick County. Single specimen found in cotton in Hay County field. Few, scattered larvae found on cotton in Brazos River bottom area. (Texas Coop. Rpt.; Tapscott, Massey, Wipprecht).

FLEAHOPPERS - MISSISSIPPI - Light infestations found on cotton in delta counties. (Pfrimmer et al., June 24). LOUISIANA - Psallus seriatus (cotton fleahopper) more numerous on cotton in Madison Parish than previous few weeks indicating migration has peaked in area. Ranged 0-5 per 100 sweeps. (Cleveland et al., June 24). OKLAHOMA - P. seriatus averaged 3 per plant on 8-leaf cotton in Comanche County. (Okla. Coop. Sur.). TEXAS - Counts of P. seriatus per 100 terminals of cotton averaged 3-5 in Kinney and Hudspeth Counties, ranged 10-20 in Brazoria and Fort Bend Counties, and averaged 30 in Walker, Houston and Madison Counties. Heavy on cotton in Wharton County and light to moderate in Guadalupe and Gonzales Counties. Infestations increasing in Brazos River bottom area with counts as high as 50 per 100 terminals. Movement into fields in Blacklands area also increased. Scattered populations reported from many rolling plains counties and observed in some older cotton in several fields in high plains area but no widespread infestations reported. (Texas Coop. Rpt.). NEW MEXICO - Spanogonicus albofasciatus appearing on terminals of cotton plants in many fields checked in Dona Ana County. (N. M. Coop. Rpt.). ARIZONA - S. albofasciatus continues moderate on cotton throughout Pinal County. Control by ground application increasing. Populations on increase in Graham County; range 8-30 per 100 sweeps. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - TEXAS - Light numbers observed on cotton in Kinney County. (Neeb). ARIZONA - Populations increasing in cotton throughout State with damaged squares very noticeable. Increasing in higher elevations. Counts in Yuma County ranged 20-90 per 100 sweeps and 7 per 100 sweeps in Maricopa County. Counts continue sufficiently high to cause injury to plants. (Ariz. Coop. Sur.). CALIFORNIA - Populations increasing on cotton in Fresno County but presents no serious problem in most areas. One report from Five Points-Huron area indicates movement into cotton from adjacent safflower and seed crops. (Ferris, June 16).

PLANT BUGS - TENNESSEE - Lygus lineolaris (tarnished plant bug) and Adelphocoris rapidus (rapid plant bug) appearing in much cotton as environ vegetation toughens in western area. (Locke). MISSISSIPPI - L. lineolaris numbers appear to have decreased in delta counties; light in most fields. (Pfrimmer et al., June 24). LOUISIANA - L. lineolaris more abundant on cotton than on other crops and wild host plants indicating migration has peaked in Madison Parish; ranged 0-5 per 100 sweeps on cotton. (Cleveland et al., June 24).

A FALSE CHINCH BUG (Nysius raphanus) - CALIFORNIA - Remains active on cotton in Fresno County, but infestations not of economic importance. (Ferris, June 16).

APHIDS - SOUTH CAROLINA - Light infestations noted in some cotton. (Cott. Ltr., June 21). TENNESSEE - Aphis gossypii (cotton aphid) heavy on individual cotton stalks in some instances within fields over western area. (Locke). GEORGIA - A. gossypii light on cotton in southern area. (Johnson, June 23). TEXAS - A. gossypii light in 20 fields and medium in 1 field in McLennan and Falls Counties. (Cowan et al.). Light on cotton in El Paso, Hudspeth and Walker Counties. (Texas Coop. Rpt.).

BANDED-WING WHITEFLY (Trialeurodes abutilonea) - ARIZONA - Infestations light in some fields of cotton. (Ariz. Coop. Sur.).

THRIPS - SOUTH CAROLINA - Infestations decreasing rapidly on cotton. (Cott. Ltr., June 21). LOUISIANA - Light on cotton in experimental plots in Madison Parish; only light damage observed in survey fields. (Cleveland et al., June 24). OKLAHOMA - Frankliniella spp. heavy in cotton in Pawnee and Osage Counties; moderate in Comanche, Cotton, Bryan and Grady Counties. (Okla. Coop. Sur.).

TEXAS - Light on cotton in 14 fields and medium in 4 fields in McLannan and Falls Counties. (Cowan et al.). Light to heavy in most high plains counties, with populations apparently increasing in some areas. Generally light and scattered in 24 rolling plains counties; continues to be reported on cotton in Blacklands area. Light on replanted cotton in Brazos River bottom area and continued light in trans-Pecos area. (Texas Coop. Rpt.). NEW MEXICO - Unspecified species causing minor damage to cotton foliage in Deming area, Luna County. (Campbell). ARIZONA - Frankliniella spp. continue injurious to cotton in all parts of State. (Ariz. Coop. Sur.).

GRASSHOPPERS - OKLAHOMA - Reported damaging cotton in Comanche, Greer and Grady Counties. (Okla. Coop. Sur.). TEXAS - Damaging field margins in Grimes and Washington Counties and spotted areas in rolling plains section. (Texas Coop. Rpt.).

SPIDER MITES - GEORGIA - Light to moderate on cotton in Oconee, Burke and Madison Counties. (Thomas, Durden). ARIZONA - Tetranychus telarius (two-spotted spider mite) continues troublesome on cotton in Maricopa, Yuma and Pinal Counties. (Ariz. Coop. Sur.). CALIFORNIA - T. telarius appears to be predominant spider mite species on cotton in Kerman, Rolinda and Biola areas of Fresno County. Controls being used. Spider mites present most serious pest problem in most other areas in western part of county. Some growers obtaining success with sulfur applications. Where systemic insecticides used, mites present no problem. (Ferris, June 16).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - INDIANA - Populations approaching economic levels on tobacco in southeast. Averaged 4 adults per plant on late set tobacco. Little if any rain since plants set, and combination of dryness and flea beetle injury caused serious damage in many fields. (Huber). MARYLAND - Adults averaged 5 per plant on field tobacco near Davidsonville, Anne Arundel County. (U. Md., Ent. Dept.).

BUDWORMS - SOUTH CAROLINA - New broods emerging. (Nettles, et al., June 22). GEORGIA - Heliothis virescens (tobacco budworm) and H. zea (tomato fruitworm) light to moderate on tobacco in southern area of State. (Johnson).

CABBAGE LOOPER (Trichoplusia ni) - SOUTH CAROLINA - Heavy on tobacco in Horry County. (Nettles, et al., June 22).

CUTWORMS - MARYLAND - Injured newly set tobacco on several farms in Charles County. (U. Md., Ent. Dept.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

CONIFER SAWFLIES - MINNESOTA - First and second instars of Diprion similis (introduced pine sawfly) very light at Brainerd, Park Rapids and Badoura areas and in Scotch pine plantation west of Cotton; some adults still active. Middle to late instars of Neodiprion pratti banksianae (jack-pine sawfly) feeding in Aitkin and St. Louis Counties and in roadside jack pines at Mille Lacs County; scattered and light elsewhere. (Minn. Ins. Rpt.). WISCONSIN - N. nanulus nanulus (red-pine sawfly) larvae remaining on jack pine in Fond du Lac County in sixth instar June 16; most forming cocoons. New growth of jack pines about 1.5 inches long. (Wis. Ins. Sur.). INDIANA - N. lecontei (red-headed pine sawfly) light on pines in Monroe County. (Schuder).

SAWFLIES - MINNESOTA - Egg laying of Pristiphora erichsonii (larch sawfly) curling new growth of tamarack; adults active; no larvae observed. Second to third instars of Pikonema alaskensis (yellow-headed spruce sawfly) causing scattered defoliation to occasional black spruce in central St. Louis County. (Minn. Ins. Rpt.).

PALES WEEVIL (Hylobius pales) - PENNSYLVANIA - Caused severe damage in large white pine plantation in Indiana County. (Udine, June 18). WISCONSIN - Feeding injury noted on roots of Scotch pine stumps of trees removed in fall of 1964. No fresh injury noted at same location in Adams County June 4. (Wis. Ins. Sur.).

WEEVILS (Pissodes spp.) - RHODE ISLAND - P. strobi (white-pine weevil) caused wilting of leaders on trees in Cranston, Providence County. (Mathewson). PENNSYLVANIA - P. approximatus (northern pine weevil) caused severe damage in large white pine plantation in Indiana County. (Udine, June 18). INDIANA - Adults of P. affinis feeding on terminals of white and Scotch pines in Monroe County. Many pupae and callow adults in stumps. (Schuder).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - NORTH CAROLINA - Active in epidemic proportions in upper Piedmont and in Hertford, Gates, Perquimans and Beaufort Counties. (Forest Pest Newsltr.). MARYLAND - Adult emergence underway June 18 on loblolly pine in Worcester and Somerset Counties. (Wood).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - RHODE ISLAND - Adults numerous around Mugho pine in Kingston, Washington County; most active at dusk; eggs observed. (Howard, Mathewson). MICHIGAN - Adults 75 and pupae 25 percent in Livingston County infestation June 23. About 40 percent natural mortality noted. (Newman).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - NORTH CAROLINA - Infesting 30 acres in Nash County; unusually severe on young trees in Franklin and Halifax Counties. Emerged from pines in Wake County nursery June 10. (Forest Pest Newsltr., Greene, Wray).

AN OLETHREUTID MOTH (Rhyacionia zozana) - CALIFORNIA - Larvae heavy on Pinus sp. in Auburn, Placer County. (Cal. Coop. Rpt.).

JACK-PINE BUDWORM (Choristoneura pinus) - MINNESOTA - Light to moderate in areas from Brainerd to Park Rapids; defoliation should be apparent in some spots; early instars still in flowers; middle to late instars feeding on new foliage. (Minn. Ins. Rpt.). WISCONSIN - Mostly fourth and fifth instars in Burnett County June 21; same stages in Jackson County June 18. Browning becoming apparent on some larger trees in Burnett County. (Wis. Ins. Sur.).

PINE TUSSOCK MOTH (Dasychira plagiata) - WISCONSIN - Fourth and fifth instars noted in field in Douglas County June 18; infestations dwindled to few, small localized areas of few acres each. Larvae caged indoors at Spooner about mid-June formed cocoons June 21. (Wis. Ins. Sur.).

SPURCE NEEDLE MINER (Taniva albolineana) - IDAHO - Adults decreasing in Moscow area. (Portman).

PINE SPITTLEBUG (Aphrophora parallela) - MINNESOTA - Noticeable in Badoura and Park Rapids areas. Late nymphs in spittle masses. (Minn. Ins. Rpt.). WISCONSIN - Last instars in west central counties by June 18; fifth instars predominant in Burnett County June 21. Entire tops of scattered individual jack pines in Burnett County with massive accumulations of froth on main stems and branches. (Wis. Ins. Sur.).

SARATOGA SPITTLEBUG (Aphrophora saratogensis) - WISCONSIN - Light, mostly third instars, in Douglas County June 17; mainly second instars in Menominee County, also light. (Wis. Ins. Sur.).

WHITE-PINE APHID (Cinara strobi) - PENNSYLVANIA - Heavy on white pine nursery stock in Montgomery County. (Menusan, June 15).

PINE TORTOISE SCALE (Toumeyella numismaticum) - OHIO - Infested Scotch pine near Rogers, Columbiana County. About 3 acres containing approximately 1,000 trees infested in 40-acre plantation. Crawlers out but many under old scale coverings. (Reigelman).

ELM LEAF BEETLE (Galerucella xanthomelaena) - ARIZONA - Continues defoliation of elms in Coolidge-Florence area, Pinal County. (Ariz. Coop. Sur.). NEW MEXICO - Very abundant and severely skeletonizing foliage of Chinese elms at Balen, Valencia County. (Heninger). OKLAHOMA - Heavy in Kingfisher, Garvin and Choctaw Counties; second-generation larvae appearing in west central area and in Payne County. (Okla. Coop. Sur.). MISSOURI - First-generation adults and second-generation eggs plentiful on hybrid elms in Jasper County; first-generation adults emerging in Boone County. (Houser et al.). ILLINOIS - Browning many elms in some areas in southern half of State. (Ill. Ins. Rpt.). OHIO - Larvae feeding and causing leaf damage in Franklin and Vinton Counties. (Jones, Holdsworth). MARYLAND - Larvae heavily damaging Chinese elms at Preston, Caroline County. (U. Md., Ent. Dept.).

LARGER ELM LEAF BEETLE (Monocesta coryli) - NORTH CAROLINA - Numerous on elms in Durham County June 21; noted on number of other plants in Forsythe County June 22. (Wray).

COTTONWOOD LEAF BEETLES (Chrysomela scripta complex) - WYOMING - Larvae and adults numerous and damaging cottonwood trees in Big Horn and Washakie Counties. (Marks). COLORADO - Abundant and damaging willows in forest nursery at Fort Collins, Larimer County. (Mathews, Thatcher). MINNESOTA - Caused scattered pockets of defoliation to aspen near Isabella. (Minn. Ins. Rpt.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OKLAHOMA - Found on many elms in Stillwater, Payne County. (Okla. Coop. Sur.). TEXAS - Locally heavy on dying elms in Mitchell County. This is a new county record. (Meisch).

A BARK BEETLE (Pseudopityophthorus pubipennis) - CALIFORNIA - Adults medium on terminals of black oaks in Burney, Shasta County. (Cal. Coop. Rpt.).

A LEAF-MINING WEEVIL (Odontopus calceatus) - WEST VIRGINIA - Found in most western counties bordering Ohio River. Leaves of yellow-poplar, preferred host, brown in areas where beetle attack concentrated. First noticed approximately 2 weeks ago in residential and surrounding areas at Huntington in Cabell and Wayne Counties. First time this weevil known to occur in such large numbers in State (Neel, June 21). See CEIR 15(26):690 for report of this weevil in Ohio. (PPC).

EUROPEAN ELM SCALE (Gossyparia spuria) - NEW JERSEY - Controls urged in Union County. (Ins.-Dis. Newsltr.). WISCONSIN - Crawlers appearing in area near Brodhead June 22. (Wis. Ins. Sur.). NEW MEXICO - Light on elms at Mountainair, Torrance County; heavy on American elms with heavy honeydew at Santa Cruz, Santa Fe County. (Heninger).

A PLANT BUG - RHODE ISLAND - Causing extensive leaf stippling and death of tips on Morraine honeylocust in Kingston, Washington County. Leaves with identical damage noted in North Kingstown, Washington County. (Kerr, Mathewson).

ELM SAWFLY (Cimbex americana) - NORTH DAKOTA - Ovipositing on elm foliage near Dwight; adults causing some damage to twigs and small branches. (Haynes).

TENT CATERPILLARS (Malacosoma spp.) - MICHIGAN - First seasonal adults of M. americanum (eastern tent caterpillar) taken week ending June 21 at 7 Lower Peninsula blacklight traps. (Newman). WISCONSIN - Single last instar of M. disstria (forest tent caterpillar) found in Menominee County June 16; previously, single larva found on poplar tree in Antigo, Langlade County, June 10. (Wis. Ins. Sur.). MINNESOTA - Late instars of M. disstria reported in Orr-Crane Lake area; forming cocoons. Few pupae present. Forming cocoons at International Falls June 18. Predation by Calosoma spp. (ground beetles) conspicuous. (Minn. Ins. Rpt.). COLORADO - M. disstria and M. fragile (Great Basin tent caterpillar) pupating; recent rains and storms dispersed and reduced populations as much as 30 percent in Larimer County. (Colo. Ins. Sur.). UTAH - M. disstria common on shade and apple trees in many Salt Lake County communities. (Knowlton, Burningham, June 18). IDAHO - M. disstria larvae feeding evident in Sandpoint area. (McPherson).

FALL WEBWORM (Hyphantria cunea) - MISSOURI - First webs of season on persimmon in Vernon County. (Houser et al.).

BRUCE SPANWORM (Operophtera bruceata) - PENNSYLVANIA - Heavy on maple and hickory in woodlot in Lackawanna County. (Mulderig, June 7).

SPRING CANKERWORM (Paleacrita veranta) - PENNSYLVANIA - Heavy on maple and hickory in woodlot in Lackawanna County. (Mulderig, June 7).

GYPSY MOTH (Porthetria dispar) - Egg mass survey negative in DELAWARE, MARYLAND and DISTRICT OF COLUMBIA; completed first week of May. (PPC East. Reg., May Rpt.). MICHIGAN - First detection traps for season planned for Jackson, Calhoun, Eaton, Ingham, Shiawassee, Clinton and Ionia Counties. (Ring).

A LEAF ROLLER MOTH (Sparganothis acerivorana) - WISCONSIN - Very light in area of Menominee County June 16; moderate in area in 1964. Slightly higher numbers in another section of county. Most in fifth to sixth instars. In sixth instar in areas of Florence County. (Wis. Ins. Sur.).

A SATURNIID MOTH (Pseudohazis eglanterina) - CALIFORNIA - Larvae infesting willow leaves in Helm, Fresno County. (Cal. Coop. Rpt.).

UGLY-NEST CATERPILLAR (Archips cerasivoranus) - WISCONSIN - Sixth instars on scattered choke and black cherries in Waushara and Sheboygan Counties June 16. (Wis. Ins. Sur.).

A LEAF-FEEDING GRASSHOPPER (Dendrotettix quercus) - WISCONSIN - Large number of nymphs on clumps of oak sprouts along telephone right-of-way in Jackson County June 16; nymphs five-eights inch long. (Wis. Ins. Sur.).

WALKINGSTICK (Diapheromera femorata) - WISCONSIN - Scattered, heavy infestations in areas of Menominee County June 16. (Wis. Ins. Sur.).

A CECIDOMYIID MIDGE (Dasyneura communis) - NEW HAMPSHIRE - Galling maple leaves at Cleremont. (Sutherland).

APHIDS - CALIFORNIA - Adults of Macrosiphum rosae (rose aphid) heavy on rose bushes in Yuba City, Sutter County; persisted longer this season due to cool weather. Lachnus salignus nymphs and adults medium on willow trees in Colusa, Colusa County. Early populations not so numerous nor so severe as in past 2 years. Nymphs and adults of Prociphilus fraxinifolii heavy on ash trees in Bella Vista,

Shasta County. (Cal. Coop. Rpt.). NEVADA - Cinara tujafilina variable, light to heavy on arborvitae in Reno-Sparks area, Washoe County. (Coop. Rpt.). IDAHO - Eriosoma lanigerum (woolly apple aphid) infested flowering crab apple at Twin Falls. (Evans). COLORADO - Several species on wide variety of shade trees and shrubs in eastern area; season favorable for development; however, parasitism and predation appearing. (Colo. Ins. Sur.). PENNSYLVANIA - Aphis spiraecola (spirea aphid) heavy on spirea in Centre County. (Kearby, June 18). MARYLAND - Stegophylla quercicola causing conspicuous leaf curl on black oak at College Heights Estates, Prince Georges County. (U. Md., Ent. Dept.). FLORIDA - All stages of Aphis nerii (oleander aphid) generally infesting and damaging stem and leaves on olenader in nursery at Leesburg, Lake County. (Fatic, June 15).

LACE BUGS (Corythucha spp.) - ARIZONA - Causing serious damage to cultivated sunflowers in Mammoth area, Pinal County. (Ariz. Coop. Sur.).

OYSTERSHELL SCALE (Lepidosaphes ulmi) - UTAH - Serious on ash, lilac and willow in many parts of Salt Lake County. (Burningham, Knowlton, June 18).

ARMORED SCALES - FLORIDA - All stages of Pinnaspis strachani scattered and severely damaging stem of Bauhinia sp. in nursery at Leesburg, Lake County. (Fatic, June 14). Aspidiotus yuccae generally infesting and moderately damaging leaves of Yucca sp. in nursery at Largo, Pinellas County. (Bingaman, June 16).

FLETCHER SCALE (Lecanium fletcheri) - OHIO - Immatures appearing on arborvitae and juniper in Pickaway County. (Cooley). MICHIGAN - Hatching underway June 23 in Ingham County. (Wallner). MINNESOTA - Some hatching in southeast; no dispersal of crawlers. (Minn. Ins. Rpt.).

COTTONY MAPLE SCALE (Pulvinaria innumerabilis) - NORTH CAROLINA - Infested Ilex crenata in Wake County. (Wray, June 11).

AZALEA BARK SCALE (Eriococcus azaleae) - NEW JERSEY - Caused severe damage to azaleas in Chatham area, Morris County. (Ins.-Dis. Newsltr.). RHODE ISLAND - Infested azaleas at Peace Dale, Washington County. (Mathewson).

A FLATID PLANTHOPPER (Ormenaria rufifascia) - FLORIDA - Adults appeared common over most of peninsula. Collected on Washington palm (Washingtonia robusta) at Leesburg, Lake County, (Henderson, Fatic, June 14); on cabbage palm (Sabal palmetto) at Hobe Sound, Martin County, June 20 and at Gainesville, Alachua County, June 21. (Mead).

ROSE LEAFHOPPER (Edwardsiana rosae) - UTAH - Discoloration becoming common in many home gardens in Salt Lake County. (Knowlton, Burningham, June 18).

LEAF ROLLER MOTHS (Choristoneura spp.) - COLORADO - Large numbers of larvae of C. lambertiana emerging from hibernaculae; attacking buds of pines heavily. Up to 5 larvae per bud noted; infestations general in Larimer County. (Borg, Thatcher). NEVADA - Heavy infestations of C. zapulata continue on several ornamental shrubs in Reno-Sparks area, Washoe County. (Coop. Rpt.).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Heavy on evergreen in Pawnee, Noble, Kay, Tillman, Choctaw, Garvin and Kingfisher Counties; moderate in Murray County. (Okla. Coop. Sur.). ILLINOIS - Damage appearing on evergreens in some southern areas. (Ill. Ins. Rpt.). OHIO - Early instars feeding on arborvitae in Pickaway County. (Cooley).

ARBORVITAE LEAF MINER (Argyresthia thuiella) - PENNSYLVANIA - Emerging and very abundant on arborviate in Centre County. (Kearby, June 18).

MIMOSA WEBWORM (Homadaula albizziae) - MISSOURI - Ranged 1-5 webs per mimosa tree in Newton County. (Houser et al.).

STALK BORER (Papaipema nebris) - DELAWARE - Larvae rather common in stalks of variety of ornamental flowers in New Castle County. (Burbutis, Woodall).

IO MOTH (Automeris io) - TEXAS - Larvae heavy and widespread on shrubs in Harris and Waller Counties. (Texas Coop. Rpt.).

MOURNING-CLOAK BUTTERFLY (Nymphalis antiopa) - NEW YORK - Defoliated weeping willows in Newark area. (N.Y. Wkly. Rpt., June 21).

BRONZE BIRCH BORER (Agrilus anxius) - MINNESOTA - Adults noted week of June 14 in St. Paul Area. (Minn. Ins. Rpt.).

ROSE CHAFER (Macrodactylus subspinosus) - VERMONT - Abundant in Rutland and Addison Counties. (MacCollom, June 21). NEW YORK - Feeding on wide range of plants; azaleas, hydrangeas, weigelias, deutzias and peonies attacked at Centereach, Suffolk County. (N.Y. Wkly. Rpt., June 21). MICHIGAN - Adults heavy locally in several central counties. (Sowerby, Lott, Abel).

A SCARAB (Strigoderma arboricola) - NORTH CAROLINA - Very damaging to roses in Nash County. (Woodard, June 7).

HOLLYHOCK WEEVIL (Apion longirostre) - NEW JERSEY - Quite active in Middlesex County. (Ins.-Dis. Newsltr.). CALIFORNIA - Adults light on hollyhock in Chico, Butte County; collected at Princeton, Colusa County. Butte and Colusa are new county records. (Cal. Coop. Rpt.).

BLACK VINE WEEVIL (Brachyrhinus sulcatus) - MICHIGAN - Adults common on ornamental and nursery yews in several Lower Peninsula counties. (Wallner). CONNECTICUT - Now active. (Savos).

BIRCH LEAF MINER (Fenusa pusilla) - WISCONSIN - General infestations appearing in Door, Waukesha, Portage, Walworth and Bay Counties. (Wis. Ins. Sur.). CONNECTICUT - Second generation expected soon. (Savos).

SPIDER MITES (Tetranychus spp.) - OKLAHOMA - Heavy on ornamentals in Bryan County. (Okla. Coop. Sur.). ARIZONA - T. telarius (two-spotted spider mite) causing severe injury to rose bushes in some parts of Maricopa County. (Ariz. Coop. Sur.). IDAHO - T. telarius infested several ornamental evergreens in Twin Falls County. (Youtz).

SPIDER MITES - MISSOURI - Heaviest infestation of several years on ornamental shrubs in Springfield area, Greene County; rainy weather holding mites in check. (Schatz).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - FLORIDA - Abundant and annoying at Collier-Seminole State Park, Collier County, June 23. (O'Brien). Repeated fogging appeared ineffective. (Fla. Coop. Sur.). ALABAMA - Aedes sollicitans (salt-marsh mosquito) heavy and widespread in extreme southern coastal areas of Mobile County; several other species occurred following rainy weather. (Seibels). VERMONT - Exceptionally abundant and annoying to livestock. (MacCollom, June 21). OHIO - Numerous species active over much of State. Dominant species in Toledo area, Lucas County, Aedes vexans, Culex pipiens, C. restuans and to lesser extent Culiseta inornata, Aedes stimulans and Culex territans. (Brockway). WISCONSIN - Activity sporadic; numbers not uniform. Most problems continue in western part of State and few in northern and central counties. Aedes vexans somewhat more common. (Wis. Ins. Sur.). MINNESOTA - During week ending June 19, collections contained few Aedes spp. larvae. Culiseta inornata and Culex spp. predominant. In both evenings and daytime bite collections, A. vexans again predominant with A. cinereus and A. sticticus important along with severe single-brooded spring Aedes spp. High mosquito numbers in forest regions in northern area. A. vexans

first species collected in light traps. Culex tarsalis accounted for 221 of over 6,000 specimens in light traps; catch of 221 of this species approached only in August of 1964. Light trap identifications for week ending June 24 show substantial increases of Culex tarsalis over preceeding week. All conditions for development of C. tarsalis ideal and very likely record-breaking populations will occur this summer. C. tarsalis is principal vector of western equine and St. Louis encephalitis. Species in Minneapolis-St. Paul area not important human biter. No encephalitis epidemic predicted; but concern for possible increase in number of cases to be watched. (Minn. Ins. Sur.). NORTH DAKOTA - Abundant in most areas of State; Aedes vexans dominant species. (Noetzel). COLORADO - Aedes dorsalis and Culex tarsalis adults numerous; steadily increasing since June 21 at Fort Collins, Larimer County. (Thatcher). Recently formed flood lands in eastern part of State pose serious problem in breeding of mosquitoes and other insects. (Colo. Ins. Sur.). UTAH - Mosquitoes troublesome about fields at Roosevelt, Vernal-Naples area and in Uintah Basin. (Knowlton, June 18). OKLAHOMA - Psorophora spp. numerous and annoying in Payne County; unspecified species heavy in Greer and Bryan Counties. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Heavy on cattle in most of south-eastern two-thirds of State. (Okla. Coop. Sur.). MISSOURI - Ranged 100-600 (averaged 300) per animal in southwestern district. (Houser et al.). ILLINOIS - Averaged 250 per animal on herd in Hardin County and 175 per animal on herd in Pulaski County. (Ill. Ins. Rpt.). SOUTH DAKOTA - Leveied to 200 per side on Black Angus stock in Charles Mix County; about same population on Black Angus herd in Clark County. (Jones). NORTH DAKOTA - Over 200 per cow in eastern areas. (Frye, Thomasson). NEW YORK - Ranged 10-20 per animal on pastured cattle. (Iowa Ins. Inf., June 21).

FACE FLY (Musca autumnalis) - SOUTH DAKOTA - Increased slightly; 5 adults per head on Black Angus herd in Charles Mix County. (Jones). ILLINOIS - Varied 0-1 per face on herd on Herford cows in Hardin County; this is a new county record. (Ill. Ins. Rpt.). PENNSYLVANIA - Averaged 4 per animal on cattle in Potter County. (Adams, June 18). MARYLAND - Ranged 1-9 per head on dairy cattle in Frederick County. (U. Md., Ent. Dept.).

HOUSE FLY (Musca domestica) - WISCONSIN - Increasing on cattle. (Wis. Ins. Sur.). ILLINOIS - Varried 0-5 about eyes on herd of Angus steers in Pulaski County; all flies collected determined this species. (Ill. Ins. Rpt.). VERMONT - At normal levels in livestock areas. (MacCollom, June 21).

TABANID FLIES - OKLAHOMA - Tabanus spp. average 10 per head on cattle in Kay County; light on cattle in Payne County. Silvius pollinosus adults numerous near water and in wooded areas in west central area. Chrysops spp. average 2 per head on cattle in Kay County. (Okla. Coop. Sur.). MISSOURI - Averaged 1 per 3 animals on cattle in southwestern district. (Houser et al.). ILLINOIS - Horse flies varied 0-1 per animal on herds in Hardin and Pulaski Counties. (Ill. Ins. Rpt.). ALABAMA - Chrysops spp. light and affecting cattle and horses in low pasture areas of Covington County. (Pike).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Most common fly species attacking cattle. (Wis. Ins. Sur.). IOWA - Only fly species observed in feedlots; ranged 5-50 (averaged 10) per animal. One Holstein dairy heifer with 50 flies. (Iowa Ins. Inf., June 21). OKLAHOMA - Ranged 5-6 per head on cattle checked in Payne County. (Okla. Coop. Sur.).

CATTLE GRUBS (Hypoderma spp.) - IOWA - Adults running cattle in Polk County June 10-18; caused running in Delaware County June 17; controls urged. (Iowa Ins. Inf.).

BLACK FLIES (Simulium spp.) - NORTH DAKOTA - Moderately abundant in river bottoms; very abundant along Sheyenne River at Kindred. (Noetzel).

TICKS - MARYLAND - Dermacentor variabilis (American dog tick) adults present near woodlands near Laurel, Prince Georges County. (U. Md., Ent. Dept.). OHIO - Ticks, probably D. variabilis, infested dogs in Franklin County. (Jones). NORTH DAKOTA - D. variabilis continues troublesome in grassy areas. (Noetzel). OKLAHOMA - Amblyomma americanum (lone star tick) heavy on cattle in McCurtain, Bryan and Delaware Counties. A. americanium and Ixodes scapularis (black-legged tick) decreased slightly in Payne County. D. variabilis becoming bothersome in Payne County. (Okla. Coop. Sur.).

HOG LOUSE (Haematopinus suis) - NEVADA - Heavy on hogs on ranch near Yerington, Lyon County. (Lundholm).

HOUSEHOLD AND STRUCTURAL INSECTS

PAVEMENT ANT (Tetramorium caespitum) - NEW JERSEY - Flights causing concern to homeowners throughout State. (Ins.-Dis. Newsltr.). MARYLAND - Swarmed in homes and on other properties in Charles, Montgomery and Prince Georges County. (U. Md., Ent. Dept.).

ARGENTINE ANT (Iridomyrmex humilis) - CALIFORNIA - Medium populations invading buildings of Fresno City College, Fresno, Fresno County. (Cal. Coop. Rpt.).

BLACK CARPET BEETLE (Attagenus piceus) - NORTH CAROLINA - Adults collected in furniture company building in Guilford. Det. by D. A. Mount. (Mount).

EUROPEAN EARWIG (Forficula auricularia) - CONNECTICUT - Problem around many homes. (Savos). RHODE ISLAND - Infesting homes statewide. (Mathewson et al.).

A MILLIPED (Oriulus venustus) - NORTH CAROLINA - Nuisance around homes in Edgecombe, Wake and Iredell Counties. Millipeds reported in CEIR 15(25):657 determined this species. (Mount, June 18).

SUBTERRANEAN TERMITES (Reticulitermes spp.) - NORTH CAROLINA - R. virginicus swarmed June 16 in Guilford County; det. by C. G. Wright. (Goforth). NEW HAMPSHIRE - R. flavipes (eastern subterranean termite) active in basement of home in Durham. (Sutherland).

BENEFICIAL INSECTS

LADY BEETLES - ILLINOIS - Adults varied 0-80 per 100 sweeps and larvae 0-20 per 100 sweeps in clover and alfalfa in southern section. Coleomegilla maculata fuscilabris main species. (Ill. Ins. Rpt.). MINNESOTA - Numbers increased; average 18 per 100 sweeps in southeast, southwest and west central districts. (Minn. Ins. Rpt.). WYOMING - Adults and larvae range 46-85 per 100 sweeps in alfalfa in Big Horn, Washakie and Hot Springs Counties. (Marks). NEW MEXICO - Counts per 25 sweeps in alfalfa fields ranged 2-30 in Socorro County, 15-25 in Torrance County, 10-20 in Santa Fe County, 3-5 in Rio Arriba County, 20-30 in Otero County and 8-35 in Dona Ana County. (N.M. Coop. Rpt.).

MELYRID BEETLES (Collops spp.) - NEW MEXICO - Counts per 25 sweeps in alfalfa fields ranged 0-6 in Socorro County, 0-4 in Otero County and 2-6 in Dona Ana County. (N.M. Coop. Rpt.). WASHINGTON - C. hirtella adults common in large field of wheat at Ahtanum, Yakima County, and gradually increasing throughout eastern section of State. (Landis, June 21).

DAMSEL BUGS - ILLINOIS - Nabis sp. varied 5-60 and averaged about 30 per 100 sweeps in clover and alfalfa in southern section. (Ill. Ins. Rpt.). MINNESOTA - Unspecified species averaged 17 per 100 sweeps in south central and southwest districts. Very rare in other districts. (Minn. Ins. Rpt.). WYOMING - Nabis spp. adults and nymphs averaged 112 per 100 sweeps in alfalfa in Big Horn, Washakie and Hot Springs Counties. (Marks). NEW MEXICO - Unspecified species

per 25 sweeps in alfalfa fields ranged 3-12 in Socorro County, 8-10 in Torrance County, 2-6 in Rio Arriba County, 15-20 in Otero County and 6-10 in Dona Ana County. (N.M. Coop. Rpt.).

GREEN LACEWINGS - NEW MEXICO - Ranged 2-6 per 25 sweeps in alfalfa in Dona Ana County. (N.M. Coop. Rpt.). WYOMING - Chrysopa spp. adults averaged 25-50 per 100 sweeps in alfalfa in Big Horn, Washakie and Hot Springs Counties. (Marks).

ASSASSIN BUGS - NEW MEXICO - Ranged 2-5 in alfalfa in 2 Dona Ana County fields. (N.M. Coop. Rpt.).

ROBBER FLIES - NEW MEXICO - Adults abundant and active in grasshopper infestations in McCoy ranch area, Quay County. (Seaton).

SYRPHID FLIES - NEW MEXICO - Ranged 3-5 per 25 sweeps in Otero County alfalfa. (N.M. Coop. Rpt.).

A PREYING MANTID - NEW MEXICO - Two found in an alfalfa field in Otero County. (N. M. Coop. Rpt.).

A TIPHIID WASP (Tiphia vernalis) - Released for control of Popillia japonica (Japanese beetle) in Sheldon, ILLINOIS; Toledo, OHIO; Loudon County, TENNESSEE; and in Mills River section, Henderson and Buncombe Counties, NORTH CAROLINA. (PPC Cent. and East. Reg., May Rpts.).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - DELAWARE - First adults of season on roses in central Kent County June 23. (Caudle). MARYLAND - Adults increasing on favored hosts in Prince Georges County. (U. Md., Ent. Dept.). SOUTH CAROLINA - Unusually abundant on leaves of alder in Isaqueena area. (Nettles et al., June 22). OHIO - Appeared in Vinton County June 20; Licking County June 23. (Cooley, Rings).

MAY BEETLES (Phyllophaga spp.) - OKLAHOMA - Extremely large numbers emerging in Cimarron County. (Okla. Coop. Sur.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - Found for the first time in Greene and Hale Counties, ALABAMA; treatments completed in Chilton, Covington, Elmore, Marion, Marshall and Tuscaloosa Counties. Found for the first time in Benton County, MISSISSIPPI. Treatments completed at Capleville, Shelby County; Madison, Gibson County; and small areas in Madison County, TENNESSEE. (PPC South. Reg., May Rpt.).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - Aerial treatment completed in Ashley, Union and Ouachita Counties, ARKANSAS; East Carroll, West Carroll and Morehouse Parishes, LOUISIANA; and the Savannah area, GEORGIA. (PPC South. Reg., May Rpt.).

PERIODICAL CICADAS (Magicicada spp.) - MARYLAND - Brood V heard in vicinity of Friendsville, Garrett County. (U. Md., Ent. Dept.).

WOOD COCKROACHES (Parcoblatta spp.) - IOWA - Reported from at least 50 counties this spring. (Iowa Ins. Inf., June 14). MINNESOTA - Continue being reported. (Minn. Ins. Rpt., June 18).

PARSNIP WEBWORM (Depressaria heracliana) - IOWA - Webbing flowers of wild parsnip. (Iowa Ins. Inf., June 21).

A MILLIPED (Oxidus gracilis) - NORTH CAROLINA - Caused numerous complaints June 5-21 in central counties; mainly Wake, Chatham, Orange, Durham and Catawba Counties. (Wray).

PLUM WEB-SPINNING SAWFLY (Neurotoma inconspicua) - TEXAS - Light infestations on peaches in Montague County week ending May 14. Det. by D. R. Smith. (Turney). This is a new State record. (PPC).

Insect on Ramie in Florida - Following insects among those taken in 100 sweeps on ramie (Boehmeria nivea) 1-2 feet high at Belle Glade, Palm Beach County, June 21: DELPHACID PLANTHOPPERS - Delphacodes propineua 21 adults, Sogata furcifera complex 6 adults; LEAFHOPPERS - Graminella nigrifrons 6 adults, Agallia constricta 1 adult, Xerophloea viridis 2 adults; GARDEN FLEAHOPPER (Halticus bracteatus) 60 adults; a BLACK FLEAHOPPER (Spanogonicus albofasciatus) 5 adults; FALSE CHINCH BUGS (Nysius spp.) 6 adults. (Mead).

CORRECTIONS

CEIR 15(12):229 - Line 1 - APPLE MEALYBUG (Phenococcus aceris) should read (Phenacoccus aceris).

CEIR 15(23):566 - THRIPS - NEW MEXICO - Delete Eddy County following Roswell.

CEIR 15(23):567 - SPIDER MITES - NEW MEXICO - Should read: "... Chaves County, south of Roswell; ..."

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Caprocapsa pomonella (codling moth)	Choristoneura auxiliaris (gray cutworm)	Euligena area (salt-marsh caterpillar)	Faronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiticalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Pelizonus saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
ARKANSAS																								
Hope 6/17-23				1							4	0				0				6				
Kelso 6/9-23				0							11	0				0				3				
FLORIDA																								
Gainesville 6/22			BL						1		1						2		1					
GEORGIA																								
Tifton 6/3-10	68-87	3.76	BL								7	2						0	0					
Tifton 6/11-15	63-89	0.12	BL								2	2						0	7					
ILLINOIS (County)																								
Champaign 6/18-24	53-82	0.14		96												123	6		1	1852		7		
MICHIGAN (Counties)																								
Berrien 6/15-21			BL	12											68	10	2			128				
Branch 6/15-21			BL	5											61	3	2			39				
Kalamazoo 6/15-21			BL	2											11	0	1			18				
Jackson 6/15-21			BL	1											3	0	0			17				
Livingston 6/15-21			BL	3											40	6	0			56				
Ionia 6/15-21			BL	4											51	6	2			64				
Saginaw 6/15-21			BL	4											23	4	0			32				
Sanilac 6/15-21			BL	8											32	3	0			49				
Bay 6/15-21			BL	2											12	0	0			18				
Ogemaw 6/15-21			BL	7											0	4	0			29				
Menominee 6/15-21			BL	1											0	2	0			20				
MINNESOTA																								
Shakopee 6/12-18				0											0	0				4				
Shakopee 6/19-25				0											0	0				7				
Worthington 6/12-18				0											3	0				26				
Worthington 6/19-25				13											15	0				37				
Fergus Falls 6/12-18				0											2	0				11				
Fergus Falls 6/19-25				1											0	1				22				
Crookston 6/12-18				0											0	0				19				
Crookston 6/19-25				0											0	0				0				
Rochester 6/19-25				0											0	0				2				
MISSISSIPPI																								
Stoneville 6/18-24	59-91	trace	2 BL	9			8		37	7	26					13	104		18	35	1	1	1	
Rolling Fork 6/18-24	58-91	trace	BL	1			7		14	2	9						23	2	118	3			17	
Tunica 6/18-24	55-92	trace	BL	5			7		17	2	40					3	125		19	13			3	
MISSOURI																								
Portageville 6/18-25				2							17				21	5	78			15				

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Caracoccus pomonella (codling moth)	Choristoneura conflictana (leafroller)	Estigmene acrea (salt-marsh caterpillar)	Feltia ducens (sweet potato cutworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiralis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Perisoma sucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (true armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
NEBRASKA																								
Bushnell 6/8-14						248									21					29				
Chappell 6/7-13						17									2					3				
North Platte 6/11-17				27		1031				1	2			12	125	1	1			446		8		
Ogallala 6/8-16				2		27									10					48				
NEW JERSEY																								
Edinburg 6/21, 25														12						120				
Masonville 6/21, 25											9			2		2				98				
Seabrook 6/21, 25											2			5		5	1			417				
Aura 6/21, 25											9			6		12			2	222				
Hardingville 6/ 21, 25					10																			
Hurffville 6/21, 25					14																			
OHIO (Counties)																								
Licking 6/17-24			BL	1																11				
Wayne 6/16-23			BL	1				2												4				
Franklin 6/20-21			BL	6				35			1									15				
SOUTH CAROLINA																								
Charleston 6/21-27	62-86	0.30	BL	0			0		0	0	0				2	2	0	0		0		0	27	
SOUTH DAKOTA																								
Brookings 6/16-24				16			2							5						305				
TENNESSEE (Counties)																								
Knox 6/15-21				16							8				4	4	3	4		26				
Johnson 6/15-21				10											1	1				19				
TEXAS																								
Waco 6/19-25				13			4		24		58					36				5			24	
WISCONSIN																								
Platteville 6/17-21			BL	0							0			5	0					18				
Mazomanie 6/16-20			BL	0							0			5	3					6				
Madison 6/16-22	39-89		BL	2	16						0			72	2					59				
Middleton 6/16-22			BL	2	5						0			32	3					26				
Arlington 6/15-21			BL								0			0						16				
Hancock 6/14-21			BL	0							0			1	0					8				
Beaver Dam 6/15-21			BL								0			89						240				
Fox Lake 6/15-21			BL								0			8						62				
Danville 6/17-21			BL								0			14						51				
Wayne 6/16-21			BL								0			2						26				
Theresa 6/16-21			BL								0			3						68				
Nenno 6/18-21			BL								0			0						11				
Ripon 6/15-21			BL								6			195						148				
Rosendale 6/15-21			BL								9			266						191				
Cedar Grove 6/15-21			BL	1							0			0						24				
WYOMING																								
Cheyenne 6/7-19				2		175									18					4				

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

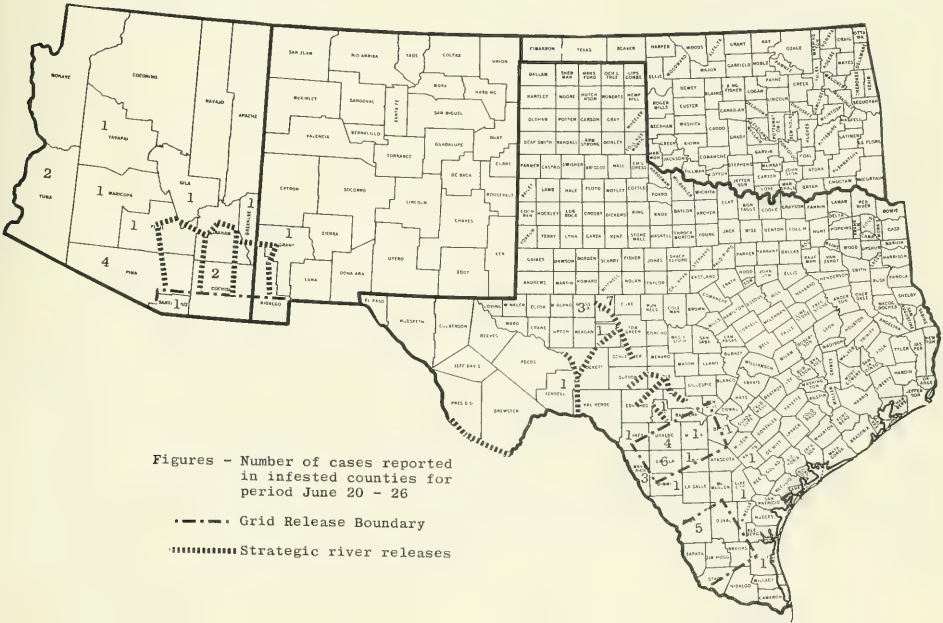
** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period June 20 - 26, a total of 54 cases was reported in the Southwestern Eradication Area, as follows: TEXAS - Irion 1, Kenedy 1, Kinney 1, Maverick 3, Sterling 7, Terrell 1, Webb 5, Real 1, Zavala 6, Karnes 1, Medina 1, Glasscock 3, Uvalde 4, Bexar 1, Frio 1, Dimmit 1, Live Oak 1. ARIZONA - Pinal 1, Yuma 2, Gila 1, Greenlee 1, Pima 4, Santa Cruz 1, Cochise 2, Maricopa 1, Yavapai 1. NEW MEXICO - Grant 1. The Republic of Mexico reported 188 cases: Territory of Baja California Sur 25, Baja California 4, Tamaulipas 2, Coahuila 12, Chihuahua 22, Sonora 54, San Luis Potosi 19, Veracruz 4, Durango 46. Sterile screw-worm flies released: Texas 25,028,250, New Mexico 2,240,000, Arizona 8,560,000, the Republic of Mexico 61,280,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding weeks in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	139	1,761	144	3,901	96.52	45.14
1964	7	87	118	3,787	5.93	2.29
1965	54	278	155	2,964	34.83	9.37
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	57	767	44	987	129.54	77.71
1965	155	2,069	64	1,153	242.18	179.44
Table 2A. Mexican portion of Barrier Zone only.						
1964	51	707	26	370	196.15	191.08
1965	119	1,844	33	610	360.60	302.29

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm population in the United States. (Anim. Dis. Erad. Div.).



INTERCEPTIONS OF SPECIAL INTEREST AT U.S. PORTS OF ENTRY

Some important interceptions that were reported by the Plant Quarantine Division, ARS, USDA, during May 1965, follow. These reports are based on identifications received from Federal taxonomists at the U.S. National Museum during the month, and include any of special interest from recent months that were not previously reported.

GIANT AFRICAN SNAIL (Achatina fulica Bowdich) 3 times in air baggage at Honolulu, Hawaii. Achatina sp. once in ship baggage at Philadelphia, Pennsylvania.

A TEPHRITID FLY (Anastrepha sp.) once in Psidium sp. in air baggage at San Pedro, California.

A DARKLING BEETLE (Blapstinus sp.) (believed of some economic significance to some field crops) 3 times with cargo of melons at New York, New York.

A SEED BEETLE (Bruchus lentis Froel.) once in ship's stores in lentils at Miami, Florida.

A SEED BEETLE (Callosobruchus analis (F.)) (widespread pest of legumes) once in ship's stores at Seattle, Washington; once in cargo of mung beans at New York, New York.

MEDITERRANEAN FRUIT FLY (Ceratitis capitata (Wied.)) 13 times; Honolulu (10), Hawaii; New York (1), New York; San Francisco (2), California.

ASIATIC RICE BORER (Chilo suppressalis (Walker)) twice in mail at Honolulu, Hawaii.

ORIENTAL FUUIT FLY (Dacus dorsalis Hendel) 8 times; at Honolulu (7), Hawaii; San Francisco (1), California.

A BOLLWORM (Earias sp.) once in okra pods in air baggage at New York, New York. (Three species of this genus are very serious pests of cotton and okra and are widely distributed in all major cotton-growing areas of the world except the Americas.).

A SPRUCE CONE MOTH (Laspeyresia strobilella (L.)) in cargo of Picea sp. cones at Baltimore, Maryland.

EGGPLANT FRUIT BORER (Leucinodes orbonalis Guen.) once in ship's stores at New York, New York.

COTTONSEED BUG (Oxycarenus hyalinipennis (Costa)) once in mail at District of Columbia Plant Inspection Station.

AN AVOCADO SEED MOTH (Stenoma catenifer (Wlsm.)) once at Mobile, Alabama; once in crew baggage at New York, New York.

A FRUIT-TREE SPIDER MITE (Tetranychus viennensis Zacher) (pest of apples and pears in Europe and Japan) once in air stores at Seattle, Washington.

WHITE GARDEN SNAIL (Theba pisana (Müller)) 54 times; at Baltimore (1), Maryland; Charleston (3), South Carolina; Chicago (1), Illinois; Dover (2), Delaware; New York (1) and John F. Kennedy International Airport (6), New York; New Orleans (9), Louisiana; Norfolk (3), Virginia; Port Everglades (3), Florida; San Juan (3), Puerto Rico; Wilmington (21), Delaware; Boston (1), Massachusetts.

KHAPRA BEETLE (Trogoderma granarium Everts) (or probably that species) 72 times; Baltimore (8), Maryland; Boston (1), Massachusetts; Charleston (12), South Carolina; Detroit (1), Michigan; Dulles International Airport (1), Virginia; Galveston (1) and Houston (1), Texas; Honolulu (1), Hawaii; Mobile (2), Alabama;

New Orleans (1), Louisiana; New York (23), New York; Philadelphia (6), Pennsylvania; Port Everglades (1), Florida; San Diego (1), San Pedro (1) and San Francisco (3), California; San Juan (1), Puerto Rico; Savannah (3), Georgia; Seattle (2), Washington; Wilmington (2), Delaware.

OAT CYST NEMATODE (Heterodera avenae) 13 times; at Seattle (6), Washington; Portland (2), Oregon; Dulles International Airport (1), Virginia; McGuire AFB (1), New Jersey; John F. Kennedy International Airport (1), New York; Mobile (1), Alabama; Toledo (1), Ohio.

GRASS CYST NEMATODE (Heterodera punctata) once at Dulles International Airport, Virginia.

GOLDEN NEMATODE (Heterodera rostochiensis) 13 times; John F. Kennedy International Airport (3), New York; Boston (2), Massachusetts; McGuire AFB (2), New Jersey; Cleveland (1), Ohio; San Diego (1) and San Francisco (1), California; Savannah (1), Georgia; Seattle (1), Washington; District of Colubia Plant Inspection Station (1).

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

All correspondence pertaining to additions, deletions and changes of addresses for the mailing list for this report should be sent to:

Service Operations Division
Office of Plant and Operations
United States Department of Agriculture
Washington, D. C. 20250

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

Volume 15 July 9, 1965 Number 28

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

EUROPEAN CORN BORER infestations in whorls, tassels and stalks becoming more apparent in some areas. (p. 743). ARMYWORM adult catches in blacklight traps rather high in Delaware and Maryland, flights heavy in panhandle area of Nebraska; larval populations continue to decline generally in central and southern Michigan. (p. 744). CORN FLEA BEETLE abundant and damaging corn in Indiana and Maryland. WIREWORMS damaged several crops in some States. CORN LEAF APHID populations exploded in Indiana; heavy on grains in other States. (p. 745). CHINCH BUG active on corn in Midwest; may buildup on Long Island if dry weather persists. (p. 746). GRASSHOPPERS threatening in areas of Oklahoma; high numbers appearing in alfalfa in Wisconsin and hatch of RED-LEGGED GRASSHOPPER reported general in Minnesota; numbers increasing in South Dakota; counts high on rangeland in Washington. (pp. 746, 747). SAGEBRUSH DEFOLIATOR defoliating big sage and WHITE-LINED SPHINX extremely numerous on rangeland areas in Utah. Hills of WESTERN HARVESTER ANT abundant in New Mexico. (p. 748).

ALFALFA WEEVIL adults stopped growth of alfalfa in some Maryland fields; first-crop alfalfa showing severe damage in South Dakota, damage extensive in areas of Utah, and damage to alfalfa generally higher than in 1964 in Oregon; heavy adult populations building up on California. (pp. 748, 749). TARNISHED PLANT BUG counts rather high in Oklahoma. POTATO LEAFHOPPER of some concern on legumes in few areas; yellowing apparent in Illinois.

EUROPEAN RED MITE and TWO-SPOTTED SPIDER MITE becoming of some concern in orchards. CODLING MOTH active with continued protection required in some location. (p. 752). APPLE-AND-THORN SKELETONIZER heavier than usual on Willamette Valley, Oregon, with much damage to unsprayed apples. APPLE MAGGOT adult emergence increasing in New York and above normal in Connecticut. (p. 753). CITRUS FLAT MITE and CITRUS THRIPS increasing in Arizona and BLACK CTIRUS APHID heavy in California. (p. 754). COLORADO POTATO BEETLE and POTATO FLEA BEETLE necessitated controls on potatoes in Colorado. (p. 756). POTATO LEAFHOPPER increasing on potatoes and beans in New Hampshire, Delaware and Michigan. (p. 757). TWO-SPOTTED SPIDER MITE causing severe yellowing of raspberry plantings in northwest Wisconsin. CABBAGE LOOPER, GREEN PEACH APHID and a MINT APHID (Ovatus crataegarius) of concern on peppermint in Washington. (p. 758).

BOLL WEEVIL continues to emerge in South Carolina and infestations much heavier than normal even in protected fields. (p. 759). ELM LEAF BEETLE unusually prevalent throughout Indiana and defoliation heavy in several other States. (pp. 762, 763). BAGWORM heavy in Oklahoma and Arkansas. (p. 763). TICKS apparently more numerous in Iowa than in several years; high populations persist in Wisconsin; AMERICAN DOG TICK population high throughout Republican River Valley of Nebraska and LONE STAR TICK heavy on cattle in Oklahoma. (p. 766).

DETECTION

New State records reported were a JAPANESE WEEVIL (Calomycterus setarius) (p. 749) and 2 ICHNEUMONS (Biolysia tristis and Bathyplectes curculionis) (p. 767) in Missouri. New County records included: CEREAL LEAF BEETLE (Oulema melanopa) in Vermilion County, Illinois, (p. 745); ALFALFA WEEVIL (Hypera postica) in Glenn and Tehama Counties, California, (p. 748); SPOTTED ALFALFA APHID (Therioaphis maculata) in Hughes County, South Dakota, (p. 750); ORIENTAL FRUIT MOTH (Grapholitha molesta) in Tehama County, California, (p. 753); FACE FLY (Musca

(Continued on page 742).

autumnalis) in St. Francois County, Missouri, (p. 766); an ICHNEUMON (Bathyplectes curculionis) in Shannon County, Missouri, (p. 767); an APHID (Amphorophora vaccinii) in Maui County, Hawaii, (p. 773).

The report of A DESERT GRASSHOPPER (Tanaocerus rugosus) as a new United States record in CEIR 15(10):DETECTION and page 147 (California) was in error. This was a misidentification. T. koebelei was the species collected in the Winterhaven area of California. T. rugosus does not yet occur in the United States.

CORRECTIONS

See page 768.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 772). There was decided drop in number of screw-worm cases in the Southwest Eradication Area.

Hawaiian Insect Notes. (p. 773).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Sweet Corn, Corn, Small Grain, Forage (legume), Timothy (seed) and Apples (commercial) in Minnesota in 1964. (pp. 774-776).

Reports in this issue are for the week ending July 2 unless otherwise indicated.

WEATHER OF THE WEEK ENDING JULY 6

HIGHLIGHTS: (1) Seasonally hot, sunny, and humid over Southland; cooler northern Rockies and northern Great Plains. (2) Dry Far West and Northeast. Spotty thundershowers Central and Southeast.

TEMPERATURE: Temperatures during the past week averaged slightly below normal although most areas were warmer than the previous week. Portions of the northern Rocky Mountains and northern Great Plains averaged from 2° to 7° cooler than normal. Some parts of Washington, Oregon, Nevada, and Arizona averaged 5° to 11° warmer than a week earlier. Over the southern half of the Country, temperatures rose to 90° or higher on almost every afternoon. Many stations from Texas to Vermont registered temperatures in the 90's on Monday and Tuesday, June 28 and 29. Over much of the West, temperatures were well below normal early in the week but rose to near normal during the latter half. The Northeast was warm the first 2 days but cooled to below normal after a cold front moved southeastward. The weather was sunny, hot, and humid most of the week over the Southeast. Portions of the Southwest registered temperatures above 100° on every afternoon. Maximum temperatures at Phoenix, Arizona, averaged 108°.

PRECIPITATION: Drought or near drought continued over much of the Northeast. A few widely scattered thunderstorms brought heavy amounts that increased the areal averages but wide areas between the showers received no rain or only light sprinkles. The lack of rain remained serious from the upper Ohio River Valley to New England. A few isolated showers occurred west of the Rocky Mountains but the weekly totals were of little consequence and wide areas were missed by the showers. Spotty thundershowers occurred over the Great Plains from the Canadian border to the Gulf of Mexico. The rainfall amounts ranged widely. Many areas received less than 0.25 inch; some spots received from 7-10 inches. The heaviest showers produced flash flooding. (Summary supplied by U.S. Weather Bureau).

Weather continued on page 761.

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH DAKOTA - Percent pupation 70 in Cass County and 85 in Richland and Ransom Counties; percent emergence 2 in Cass County, and 10 in Richland and Ransom Counties. First eggs of season observed near Kindred, Cass County; one egg mass recovered from 200 plants. (Gage, Dissell). SOUTH DAKOTA - Activity noted in earlier corn; chemical treatment advisable. Whorl injury noticeable at Centerville and in southeast area. (Jones). NEBRASKA - Larvae in whorls and stalks of corn in eastern section. (Rhine). MISSOURI - In New Madrid County, 18.7 percent of corn plants in 22 fields infested with 13.6 borers per 100 plants (2,167 borers per acre). First-generation pupation 28 percent. (Keaster). Adult emergence well underway; egg masses ranged 10-20 per 100 plants in late planted corn July 1. (Houser). IOWA - Emergence 98 percent June 25 at Ankeny; adults averaged 11 per night in light trap. Egg masses averaged 23 per 100 plants. Leaf feeding ranged 68-80 percent on corn planted May 1 in Shelby County, and 16-50 percent on 36-40 inch corn in Wright and Kossuth Counties. Leaf feeding of 60 percent noted at Marengo, field treated with excellent results. Borers ranged 15-20 per plant at Oakland. Treatments underway in eastern Pottawattamie County. (Iowa Ins. Inf., June 28). MINNESOTA - Egg laying continues at slow rate in all districts. Size of corn ranged 4-38 inches; average about 25 inches high. Egg masses range 0-2.1 per 100 corn plants; counts highest in southwest district. First-stage larvae found in some fields. (Minn. Ins. Rpt.). WISCONSIN - Little change in larval population noted; no egg masses observed in southern area. Larvae range up to third stage in more advanced areas. Blacklight trap counts indicate egg laying well underway in more northerly counties. (Wis. Ins. Sur.).

ILLINOIS - Unhatched egg masses ranged 0-10 (average 1.5) per 100 corn plants 37-70 inches high (average 52.8) in northwest district; 0-30 (average 12.5) percent of plants infested with 0-3 (average 0.79) larvae per infested plant. Larvae 21.42 percent first stage, 50 percent second stage, 28.57 percent third stage. In southeast district, 2-12 (average 6.67) percent of plants infested with 0-1 (average 0.67) larva per infested plant; all in fourth stage. (Ill. Ins. Rpt.). INDIANA - Second to fourth-stage larvae averaged 2 per stalk on 70 percent of stalks examined in Floyd and Harrison Counties. (Saugstad). Newly deposited egg masses found on corn in Newton, Jasper and Benton Counties. These probably last egg masses from overwintering population. (Huber). MICHIGAN - Infestation by first and second-stage larvae ranged 33 percent in early corn to zero in some fields of late corn checked June 29 in Monroe and Lenawee Counties; first instars predominate. (Newman). OHIO - This and Papaipema nebris (stalk borer) light in corn in 2 fields in Fairfield and Perry Counties; infestations in Fairfield County about 5 percent and about 1 percent or less in Perry County. O. nubilalis larvae about 0.25 inch in length, P. nebris larvae about 0.75 inch long; similar number of each noted. None found in fields in Guernsey and Jefferson Counties. (Rose). MARYLAND - Whorl, tassel and stalk infestations of 10-35 percent common in more advanced corn in all sections. (U. Md., Ent. Dept.). PENNSYLVANIA - Larvae ranged 5-6 per stalk of sweet corn in Bucks and Montgomery Counties June 24. (Menusan). NEW YORK - Injury apparent on only 20 percent of tassels of sweet corn in Hudson Valley; borers entered upper stalks June 25. Very little pin holing and very few larvae noted in tassels in Suffolk County. (N.Y. Wkly. Rpt., June 28).

CORN EARWORM (Heliothis zea) - NEW YORK - No larvae noted on tassels of sweet corn in Hudson Valley. (N.Y. Wkly Rpt., June 28). MICHIGAN - Three adults taken recently at widely scattered blacklight traps in Berrien, Ionia and Newaygo Counties indicate few early migrants entered State via Mississippi River fly-way. (Newman). WISCONSIN - Blacklight trap counts at Fond du Lac indicate moths numerous and laying eggs on various hosts in area. Single third-stage larva found in tassel of sweet corn near Mazomanie. (Wis. Ins. Sur.). IOWA - First adult of season collected in light trap at Columbus Junction June 18. Fourth-stage larvae noted in sweet corn at Ankeny. (Iowa Ins. Inf., June 28). MISSOURI - Second-generation adults laying eggs on corn silks in Dunklin County; averaged 1 egg per 3 ears. Orius insidiosus (an insidious flower bug) averaged 1 per

corn ear. (Houser). ALABAMA - Considerable damage to young corn reported in Geneva County. (Reynolds). Damage to ears of sweet corn in small home gardens somewhat spotty and erratic,although infestation extremely high in some gardens. (McQueen). NEW MEXICO - Infested approximately 40 percent of sweet corn harvested in 3 Las Cruces home gardens, Dona Ana County; 2 or more larvae in 15 percent of ears. (Nielsen). Also problem in field corn in this County. (Gomez, Garcia).

ARMYWORM (Pseudaletia unipuncta) - NEW YORK - Few full-grown larvae found in field of Sudan-sorghum hybrid planted May 10 in Broome County and now about 2 feet high. (N.Y. Wkly. Rpt., June 28). DELAWARE - Adults averaged 100 per night in black-light trap collections in Sussex County. (Burbutis, Woodall). MARYLAND - Over 1,000 adults taken in blacklight trap at Centreville, Queen Annes County, during week ending June 28. (U. Md., Ent. Dept.). MICHIGAN - Larval populations continued to decline generally in central and southern counties. (Ruppel, Rowe, Hearl). MINNESOTA - High numbers reported moving from weedy, noncrop area into sweet corn in one area of Freeborn County. (Minn. Ins. Rpt.). NEBRASKA - Adult flights heavy in panhandle area. (Pruess).

FALL ARMYWORM (Spodoptera frugiperda) - ARKANSAS - Observed on sorghum in Lincoln County. (Ark. Ins. Sur.).

BLACK CUTWORM (Agrotis ipsilon) - WISCONSIN - Some larvae still feeding on corn although most about to pupate. Population trend during next few weeks, in addition to weather, will determine potential for other crops. (Wis. Ins. Sur.). MINNESOTA - Few reports of corn damage by cutworms received from Steele, Freeborn and Waseca Counties; A. ipsilon involved. Most pupating. (Minn. Ins. Rpt.). IOWA - Large larvae found in fields of corn examined in eastern area June 21-24; pupation underway. (Iowa Ins. Inf.). NEVADA - Larvae range light to heavy on corn in Lovelock, Pershing County; main stalk being fed upon, cut off, and/or larvae boring upward in center of stalk. Ranged 1-10 per 100 plants. (Atencio et al.).

STALK BORER (Papipema nebris) - NEBRASKA - Light in corn in Sarpy County. (Rhine). MINNESOTA - Noted in marginal rows of corn in southwest, southeast, south central and central. Generally light, but 40 percent of marginal rows infested in occasional field in central district. (Minn. Ins. Rpt.). WISCONSIN - Few third-stage larvae noted in marginal rows of corn in southern area. Larvae common in field of oats near Sauk City. (Wis. Ins. Sur.). OHIO - Noted in corn in Fairfield and Perry Counties. See note on Ostrinia nubilalis (European corn borer) on page 743. (Rose).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSOURI - In New Madrid County, 1.8 percent of corn plants in 22 fields infested with 2.15 borers per 100 plants; pupation 12.5 percent complete June 28. First adult of season taken in light trap in Portageville, Pemiscot County, July 2. (Keaster).

CORN ROOT WEBWORM (Crambus caliginosellus) - MARYLAND - Continues damaging to original and replanted corn in Charles and Queen Annes Counties. (U. Md., Ent. Dept.).

A PSYCHID MOTH (Apterona crenulella) - UTAH - Apparently larvae seriously leaf mining corn in Bountiful area, Davis County. (Knowlton, Parrish, June 29).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Hatched in western section; populations appear lower than in 1964. (Pruess). MINNESOTA - Egg hatch continues in southern half of State; larval counts generally low. In one field north of Howard Lake, Wright County, however, larvae averaged 14 per plant; ranged 1-8 per corn plant in other fields in this area and in Carver County. Root damage very evident in these counties; plants easily pulled from soil. D. longicornis (northern corn rootworm) dominant species in area. Most larvae in first stage, but occasional second stage found. (Minn. Ins. Rpt.). OHIO - Eighty larvae of D. longicornis collected from root systems and associated soil of 10 corn plants in Wood County; 30 larvae and pupae collected near South Charleston, Clark County. Corn not treated in either instance. (Davidson).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - IOWA - Two second-stage larvae found in first-year corn in Taylor County. Two larvae found in untreated check strip in treated field of corn in Dallas County and 5 full-grown larvae found in corn following alfalfa in Shelby County; averaged 14 per plant in one field. (Iowa Ins. Inf., June 28). MINNESOTA - Larvae tentatively determined this species from field of corn in Jackson County; this was first-year corn (field in soybeans previous 2 years); larvae in first and second stages. (Minn. Ins. Rpt.). SOUTH DAKOTA - Collected from alfalfa north of Kimball, Brule County. (Jones).

CEREAL LEAF BEETLE (Oulema melanopa) - ILLINOIS - Collected for first time in Vermilion County June 18. (Lanier). MICHIGAN - First summer adults observed entering inactive stage June 24 in Berrien County research plots; increasing numbers entered quiescent period since that date. Major portion of field population expected to be relatively inactive by July 9. Adults now predominant life stage; concentrated on more succulent grasses. No pupae found on grass or wheat; larvae and pupae present in late oats, with occasional egg found. No more general larval or adult feeding problems expected this season. (Ruppel, Turner).

CORN FLEA BEETLE (Chaetocnema pulicaria) - INDIANA - Adults heavy in eastern areas; 10-15 per corn plant common in some fields. Some replanting necessary in Jay County area. (Huber, Rippey). MARYLAND - Abundant in corn with foliage injury evident in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.).

DESERT CORN FLEA BEETLE (Chaetocnema ectypa) - ARIZONA - Up to 360 per 100 sweeps on sorghum noted in Yuma County. (Ariz. Coop. Sur.).

WIREWORMS - OHIO - Killed approximately 3 acres of corn in 10-acre field near Aurora, Portage County. (Rings). INDIANA - Larvae heavy in corn in localized situations throughout State. One 36-acre field in Ripley County severely damaged. (Lahker). ALABAMA - Light, local populations damaging soybeans in 2 fields in sandy areas of Rose Hill and Opine communities, Covington County. (Pike). SOUTH DAKOTA - Damaged corn in Kingsbury County; in field west of Arlington, averaged 1 larva per hill in infested hillside area. (Berndt). OREGON - Limonius californicus (sugar-beet wireworm) apparently more abundant than normal on wheat and corn in Sherman County. (Every).

BILLBUGS (Sphenophorus spp.) - MICHIGAN - Larval injury to wheat reported recently in several central counties; rye reported damaged in field in Ingham County. (Smith, Mulvany). NORTH CAROLINA - Larvae of S. maidis (maize billbug) reported in corn in field in Wayne County. Det. by D. A. Mount. (Baker).

CORN LEAF APHID (Rhopalosiphum maidis) - INDIANA - Populations exploded in Floyd and Harrison Counties since report in CEIR 15(27):709. Apterous adults ranged up to 1,000 per plant, with 67 percent of corn inspected being infested. (Saugstad). OKLAHOMA - Heavy in grain sorghum in Mayes County and light in corn in Choctaw County. (Okla. Coop. Sur.). UTAH - Reported infesting barley in several areas. (Knowlton). NEVADA - Heavy in many grain fields in Lovelock, Pershing County; controls initiated week of June 25. (Bechtel, Ferraro, Philips). COLORADO - This species and R. fitchii (apple grain aphid) abundant in few fields of malting barley in Mesa County; controls being used. (Bulla).

ENGLISH GRAIN APHID (Macrosiphum avenae) - MINNESOTA - Low on small grains throughout State. (Minn. Ins. Rpt.). WISCONSIN - Seldom exceeds more than 1 per sweep in small grains. Grain mostly headed out in southern counties; range from milk to boot stages along eastern lakeshore. (Wis. Ins. Sur.).

GREENBUG (Schizaphis graminum) - WISCONSIN - Seldom exceeds more than 1 per sweep in small grains. Grains mostly headed out in southern counties, range from milk to boot stages along eastern lakeshore. (Wis. Ins. Sur.). MINNESOTA - Low on small grains throughout State. (Minn. Ins. Rpt.). SOUTH DAKOTA - Small numbers, usually less than 100 per 100 sweeps, noted in alfalfa sampled east of Chamberlain (Brule County), northwest of Gann Valley (Buffalo County), north of Vivian (Lyman County), east of Pierre (Hughes County), south of Onida (Sully County). (Jones).

CHINCH BUG (Blissus leucopterus) - ILLINOIS - Migrating from small grain into corn in eastern and central districts. Populations light to very high. Damaging corn in marginal rows; treatments being applied. (Ill. Ins. Rpt.). INDIANA - Approximately 60-70 percent of corn in Jay County heavily infested; controls required. Infestation heavy in Blackford, Delaware, Wells, Adams and Allen Counties and northern Manchester area of Wabash County; controls required. Localized, heavy outbreaks present in Lake, Newton, Jasper, Benton and Warren Counties. Migration from grain mostly completed in eastern areas, just beginning in western areas. Populations mostly middle to late-instar nymphs (1-2 percent adults) in east, and early to middle instars in west. (Huber, Matthew, Rippey). OHIO - Active on corn in Franklin, Union, Shelby, Champaign, Wood, Allen, Preble and Darke Counties; considerable problem throughout Union County. Migrating into corn from other crops such as wheat. Recent hot weather favorable for development. (Baush et al.). NEW YORK - Population building up on Long Island. Larger populations may be expected if dry weather persists. (N.Y. Wkly. Rpt., June 28).

A STILT-LEGGED BUG (Aknisus sp.) - TEXAS - Locally heavy on wheat over Lubbock County; however, no damage noted. (Texas Coop. Rpt., Hatchett).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - MINNESOTA - Increased on small grains. Counts per 100 sweeps averaged as follows, by district: Southeast 26, south central 375, southwest 644, west central 50, northwest 25, central 75. (Minn. Ins. Rpt.).

HESSIAN FLY (Mayetiola destructor) - INDIANA - Infestation 36 percent in one field of wheat near Rensselaer, Jasper County. (Lahker), MICHIGAN - First signs of damage to Monon wheat in State observed in Berrien County; injured some wheat in Muskegon County. (Ruppel, Hearl).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Moderate to heavy numbers observed in Brazos and Robertson Counties. (Kimbriel). Apparently peak midge emergence from overwintering sites in south plains area passed. Adults observed in Johnson grass in the field; grain sorghum in south plains area beginning to bloom and may become lightly infested. Apparently movement greater at this time than at similar time in 1964; increase in activity noted over that reported in CEIR 15 (27):710. (Daniels, Harding, Rummel).

BANKS GRASS MITE (Oligonychus pratensis) - NEVADA - Heavy in all timothy fields in Smith Valley, Lyon County, week of June 18; some fields treated. (Batchelder).

A GARDEN SYMPHYLAN - COLORADO - An unspecified species continues to be reported infesting corn in northern Greeley area, Weld County. (Urano).

GRASSHOPPERS - INDIANA - Early instar Melanoplus spp. nymphs averaged 3 per 5 sweeps in northern third of State and 1 per sweep in central areas. (Huber, White). WISCONSIN - High numbers of grasshoppers appearing in few fields of alfalfa and hatch not yet completed. M. sanguinipes (migratory grasshopper) fully grown in more advanced areas and feeding on grain. M. bivittatus (two-striped grasshopper) adults appearing and will soon move into cropland. Populations increasing in regrowth alfalfa although rarely exceed 1 per sweep in Fox River Valley area. Predominance of first and second-instar nymphs of M. femurrubrum (red-legged grasshopper) suggests main hatch not yet occurred in heavier soiled areas. Counts somewhat higher in sandy textured fields; counts exceeded 40 per square yard in new seeding of clover-rye mixture in Sauk City area; mainly M. femurrubrum. Some third-instar nymphs present in such areas. M. sanguinipes fully grown in more advanced areas and evenly dispersed throughout fields of rye, wheat and oats in Spring Green and Sauk City locations; some feeding on kernels noted; few still in fourth stage in Adams County. M. bivittatus adults present in Adams County with few third instars noted; adults of Aeropedellus sp. also noted in area. M. differentialis (differential grasshopper) nymphs comprise high percentage of population in few fields; primarily first and second instars. Few fourth instars of Dissosteira carolina (Carolina

grasshopper) noted in Adams County. Damage to corn and soybeans becoming noticeable in isolated instances. (Wis. Ins. Sur.). MINNESOTA - Hay removal, roadside mowing and warm weather provided ideal conditions for grasshopper egg hatch and nymphal development. Hatch of M. femurrubrum eggs reported general in all districts; this is predominant species in State. Counts varied greatly from field to field; ranged 1-100 per square yard. High counts found in Dakota, Olmsted, Watonwan, Kandiyohi, Stearns and Wright Counties; most infestations in alfalfa but some of highest counts found in roadsides and field margins. Movement into adjacent crops expected with increase in size of nymphs. Some movement into small grain reported in southwest, west central and central districts. M. femurrubrum in first and second instars, M. differentialis in second to third instars, M. bivittatus in second to fourth instars. Few M. sanguinipes and M. packardii (Packard grasshopper) in adult stage in Kandiyohi and Stearns Counties. Growers should check fields for small nymphs; early treatment with recommended controls advantageous. (Minn. Ins. Rpt.). NORTH DAKOTA - Marginal infestations ranged 1-12 (average 3) nymphs per square yard in southwest area; field counts ranged 1-7 (average 1) per square yard. M. bivittatus, M. sanguinipes and M. packardii dominant species; few Camnula pellucida (clear-winged grasshopper) present. Most nymphs in second and third instars. (Scholl). Nymphs ranged 2-8 per square yard in northwest area; most in second and third instars. M. bivittatus, C. pellucida and Ageneotettix deorum dominant species. (Cushing). SOUTH DAKOTA - Although numbers increasing in central and south central district alfalfa, nymphs ranged only 4-8 per square yard. (Jones). Populations still very light in cropland in central and northeast areas. In Pennington, Lawrence, Butte and Meade Counties, grasshoppers ranged up to 12 per square yard in spots, but light in most other areas. (Burge).

OKLAHOMA - Threatening infestations found scattered throughout Coal, Latimer, Pushmataha, Carter, Love, Murray and Pontotoc Counties in southeast and south central areas; ranged 15-25 per square yard. M. bivittatus, M. differentialis, M. occidentalis, Ageneotettix deorum and Hesperotettix speciosus dominant species. Infestations ranged 2-6 per square yard at locations in Comanche, Cotton, Caddo and Jefferson Counties; Phlibostroma quadrimaculatum, M. packardii, Boopedon nubilum and Hesperotettix viridis dominant species in these areas. Grasshoppers ranged 8-25 per square yard in Greer and Beckham Counties, with P. quadrimaculatum, Aulocara elliotti, Ageneotettix deorum and B. nubilum dominant. Unspecified grasshoppers averaged 50 per square yard on roadsides in Ringwood area, Major County, and damaging rangeland and various crops in Marshall, Bryan, Stephens, Adair, Mayes and Coal Counties. (Okla. Coop. Sur.). TEXAS - Moderate, local infestations of unspecified grasshoppers present on rangeland in Motley County. (Pallmeyer). ARIZONA - Psoloessa texana and Trimerotropis spp. averaged 1 per square yard in eastern area of Pinal County. (Ariz. Coop. Sur.). UTAH - Controls underway in Salt Lake County; landowners also spraying to protect home grounds, gardens and some agricultural lands. (Parrish, Knowlton, June 29). Grasshoppers very abundant in one area near Beaver, Beaver County, July 1 (Esplin, Knowlton); controls underway on very heavy outbreaks in several parts of Sanpete County (Knowlton, Purnell). Aircraft spraying of 20,000 acres underway in Sanpete County; population largely Camnula pellucida. (Thornley, Knowlton). WYOMING - Grasshoppers infesting approximately 20,000 acres of rangeland in Goshen Hole area of Goshen and Platte Counties. Major species include Cordillacris occipitalis (fourth instar to adult), Ageneotettix deorum (third to fifth instars), Aulocara elliotti (third and fourth instars) and Melanoplus occidentalis (fifth instar and adult). (Thornley, Marks). WASHINGTON - Grasshoppers infesting 25,000 acres of rangeland in western Whitman County and approximately 5,000 acres in eastern Franklin County; populations up to 75 per square yard noted; averaged 15 per square yard. Population mainly M. sanguinipes, with intermigling of 5 percent M. bivittatus and M. packardii. (Jackson, June 28).

SOD WEBWORMS - CALIFORNIA - Adults, probably Crambus bonifatellus heavy in lawn turf in Fremont, Alameda County. (Cal. Coop. Rpt.). WISCONSIN - Unusually high numbers of C. vulgivagellus (vagabond crambus) appearing in blacklight trap at Hancock. These and Nomaphila noctuella (a pyraustid moth) common along roadsides and in lawns throughout southern counties. (Wis. Ins. Sur.).

SAGEBRUSH DEFOLIATOR (Aroga websteri) - UTAH - Defoliating big sage in Cedar Valley area in western Utah County. (Knowlton, Acord, June 28). Seriously damaged big sage over area 1 by 5 miles in extent west of Utah Lake, Utah County, July 1. (Knowlton, Keetch).

WESTERN TENT CATERPILLAR (Malacosoma pluviale) - CALIFORNIA - Larvae, probably this species, locally heavy on bitterbrush near Fort Bidwell, Modoc County. (C. Smola, USSF).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Spotted, light populations found feeding on rangeland areas near Farley, Colfax County. Range in very good condition and larvae small; only minor damage noted. (Campbell, Nielsen).

WHITE-LINED SPHINX (Celerio lineata) - UTAH - Larvae extremely numerous on rangelands in Uintah Basin from south of Vernal (Uintah County) and south from Myton (Duchesne County), 2 of larger infested areas. (Knowlton, James, June 29).

EUROPEAN CHAFER (Amphimallon majalis) - NEW YORK - Adults noted in flight June 23 at Lewiston, Niagara County. (N.Y. Wkly. Rpt.).

A WEEVIL (Hyperodes anthracinus) - NEW YORK - Probably this species, causing considerable damage to golf greens in Ithaca area; also damaged grass in green aprons and found in fairways. Reported damaging on Long Island at Glen Cove and Locust Valley. Adults emerged at Ithaca previous week and now at peak. (N.Y. Wkly. Rpt., June 28).

A CHINCH BUG (Blissus sp.) - TEXAS - Locally heavy on St. Augustine grass lawns in Harris County (Meisch) and light locally in Travis County (Thompson).

AN ARMORED SCALE (Odonaspis ruthae) - OKLAHOMA - Heavy population killing Bermuda grass in lawn in Cushing, Payne County. (Okla. Coop. Sur.).

WHEAT STEM MAGGOT (Meromyza americana) - NORTH DAKOTA - Approximately 25 percent of stems infested in field of crested wheatgrass at Bismarck, Burleigh County. (Frye, Thomasson).

A MARCH FLY (Dilophus orbatus) - CALIFORNIA - Medium in grass areas locally in San Diego, San Diego County. (Cal. Coop. Rpt.).

WESTERN HARVESTER ANT (Pogonomyrmex occidentalis) - NEW MEXICO - Hills very abundant near Roy, Harding County, and in Farley-Abbott area, Colfax County. Many new hills being established. (Campbell, Nielsen).

TERMITES - TEXAS - Damaged large, spotted areas of pasture grass in Motley County. (Pallmeyer).

ALFALFA WEEVIL (Hypera postica) - WASHINGTON - Adults and larvae found on alfalfa in Walla Walla area, Walla Walla County. (Eves, June 28). OREGON - Larval damage to alfalfa generally higher than during 1964 in Klamath, Malheur, Baker, Crook and Wallowa Counties. (Every). CALIFORNIA - Heavy adult populations building up in Willows, Glenn County; noted on buildings, in yards and on vegetation. Populations heavy on alfalfa in Flournoy, Tehama County. These are both new county records. (Cal. Coop. Rpt.). UTAH - Much alfalfa cut for weevil control; storms interferred with spraying and harvesting operations. Damage extensive in Salt Lake County. (Parrish, Knowlton, June 29). Damaged large areas of alfalfa in Beaver County July 1 (Esplin, Knowlton), and continued to damage many fields in Sanpete County (Purnell, Knowlton). WYOMING - Larvae per 100 sweeps in alfalfa ranged 80-100 in Goshen County and 95-130 in Laramie County. (Marks). Larvae averaged 625 per 10 sweeps on untreated check plots near Shell, Big Horn County. (Fronk, Wingfield). COLORADO - Larvae being controlled in some alfalfa in Weld County; more advanced larvae and pupae present in other fields. (Urano). NEBRASKA - Surveys negative in Loup, Brown, Boyd and Keya Paha Counties June 17-18. (Manglitz). SOUTH DAKOTA - Ranged second

instar to pupae in alfalfa in Spearfish area, Lawrence County; 20 percent pupae. Overwintered adults still present. Larvae averaged 80 per 100 sweeps in second-crop alfalfa; averaged 4 larvae per square inch of field surface in some fields where regrowth severely damaged. Unmowed first-crop alfalfa showing severe damage, with general appearance of fields being white in color. (Jones). OHIO - Larvae still found in some abundance, although not as plentiful as before first cutting of alfalfa. Averaged 1 per sweep in second-growth alfalfa near Waynesburg, Carroll County; ranged up to late stages. Adults collected randomly from ripening oats, alfalfa and in blacklight trap. (Rose). Larvae ranged 1-4 per sweep in Mahoning County. (Spadafora, Niemczyk). MARYLAND - Adults varied 0-6 (average 0.7) and larvae 0-2.6 (average 0.6) per sweep on alfalfa in Frederick County. Adults stopped growth of alfalfa in few fields. (U. Md., Ent. Dept.). NEW YORK - Pupation underway in Broome County; few adults still found. (N.Y. Wkly. Rpt., June 28). VERMONT - Pupation underway in most areas, but many young larvae still present. Larvae ranged 20-25 per sweep in Pawlet, Rutland County. (MacCollom, June 28).

CLOVER LEAF WEEVIL (Hypera punctata) - CALIFORNIA - Heavy adult populations building up in Willows, Glenn County, and heavy on alfalfa in Flournoy, Tehama County. (Cal. Coop. Rpt.).

CLOVER SEED WEEVIL (Miccotrogus picirostris) - IDAHO - Averaged less than 2 per sweep in white clover seed fields in Moscow area; fields treated 10 days earlier. (Futter, Portman).

A WEEVIL (Sitona scissifrons) - SOUTH DAKOTA - Averaged 0.4 per sweep in second-crop alfalfa in Brookings County. (Jones).

A JAPANESE WEEVIL (Calomycterus setarius) - MISSOURI - Adults completely defoliated 5-acre area in field of small soybeans in Atchison County; field bordered by field of brome. This is a new State record. (Thomas).

BLISTER BEETLES - UTAH - Epicauta pennsylvanica (black blister beetle) numerous in alfalfa at Petersborough, Cache County. (Knowlton, June 28). Unspecified species damaged alfalfa blooms in several Juab County fields July 1. (Knowlton, Esplin). SOUTH DAKOTA - Epicauta maculata (spotted blister beetle) averaged 2 per 100 sweeps in alfalfa sampled in Hughes and Sully Counties. (Jones). ARKANSAS - Heavy, spot infestations of Epicauta sp. observed on University of Arkansas farm near Fayetteville; ranged 400-500 per 100 sweeps of 15-inch net. (Ark. Ins. Sur.).

FLEA BEETLES - SOUTH DAKOTA - Phyllotreta striolata (striped flea beetle) adults averaged more than 50 per 100 sweeps in alfalfa north of Kimball, Brule County, and northwest of Gann Valley, Buffalo County. (Jones). OHIO - Unspecified species damaging corn in Delaware and Portage Counties. (Irvin et al.). MARYLAND - Systena blanda (pale striped flea beetle) light but conspicuous on soybeans checked in Queen Annes County. (U. Md., Ent. Dept.).

JAPANESE BEETLE (Popillia japonica) - DELAWARE - Present on soybeans and corn in few areas. (Burbutis, Woodall).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Scattered infestations noted in alfalfa in Yuma County; adults noted flying over alfalfa in Graham County. (Ariz. Coop. Sur.). ARKANSAS - Adults numerous in field in Washington County, but larval numbers very low as usual. (Ark. Ins. Sur.). MARYLAND - Light to moderate on alfalfa in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Light but widespread on alfalfa and red clover over State. (U. Md., Ent. Dept.). MICHIGAN - First adult of season (gravid female) taken in Livingston County blacklight trap June 28. (Newman).

VARIEGATED CUTWORM (Peridroma saucia) - IOWA - Moved into soybeans from fourth-year diverted acres in Emmet County; averaged 26 per linear foot. Treatment applied June 26; 75 percent of larvae dead or dying following day. (Iowa Ins. Inf., June 28).

CUTWORMS - VERMONT - Continue damaging to legumes in Rutland area. (MacCollom, June 28). NEW HAMPSHIRE - Damage declining statewide. Specimens collected from alfalfa May 17 at Charlestown, Sullivan County, determined as Euxoa messoria (dark-sided cutworm). (Conklin, Morse, Sutherland). UTAH - Damage to alfalfa and gardens lessened in Salt Lake County. (Parrish, Knowlton, June 29).

WEBWORMS (Loxostege spp.) - MISSOURI - Larvae of L. similalis (garden webworm) caused heavy damage to some soybeans and corn in Carroll County. (Thomas). OKLAHOMA - Loxostege spp. ranged 12-15 per 10 sweeps in few fields checked in Bryan, Johnston and Murray Counties; averaged 1-3 per 10 sweeps in other fields checked in same areas. (Okla. Coop. Sur.).

PEA APHID (Acyrthosiphon pisum) - WASHINGTON - All stages ranged 1-20 (average 6) per sweep on forage alfalfa 8-16 inches high in Othello, Royal City and Quincy areas, Grant County. Averaged 3 or less per sweep in most fields. (Halfhill, June 28). Present on seed and forage alfalfa, but no damage apparent. Counts as follows: 18 per sweep at Mabton, Yakima County; 33 per sweep at Pasco, Benton County; at Walla Walla, Walla Walla County, counts per 10 sweeps were 3 on recently treated alfalfa and 16 on untreated alfalfa. (Halfhill). Numbers increasing on red clover grown for seed after controls applied at Othello, Grant County. (Landis). OREGON - Populations variable in alfalfa throughout State; no great amount of damage reported from any area. (Every). UTAH - Building up on alfalfa in many Beaver County fields (Esplin, Knowlton); populations high and damaging alfalfa in many Sanpete County fields (Knowlton, Purnell). COLORADO - Numbers continue to increase in alfalfa in Weld County; however, lady beetle larvae ranged 40-60 per 100 sweeps in some fields. (Urano). Numbers low on second hay crops in Mesa County; 50-100 per 100 sweeps. (Bulla). WYOMING - Large populations were noted on regrowth of second-crop alfalfa in Laramie County; some damage apparent in many instances. Adults and nymphs ranged 80-120 per plant. Chemical controls advised in some fields. Adults and nymphs ranged 475-600 per 100 sweeps in Goshen County. (Marks). ARIZONA - Light populations increased to medium in alfalfa in Graham County; counts very heavy in Yuma County alfalfa. (Ariz. Coop. Sur.). OKLAHOMA - Populations variable on alfalfa checked in central and south central areas. Ranged from 4 per 10 sweeps in Lincoln County to 425 per 10 sweeps in Garvin County. Ranged 5-10 per 10 sweeps in Garfield, Payne and Major Counties; averaged 65 per 10 sweeps in Choctaw County. (Okla. Coop. Sur.). ARKANSAS - Small numbers still present on alfalfa in northwest area. (Ark. Ins. Sur.). SOUTH DAKOTA - Averaged 4.1 per sweep in second-crop alfalfa in Brookings County. Populations apparently decreased to less than 50 per 100 sweeps in alfalfa sampled in central and south central districts. (Jones). MINNESOTA - Counts per 100 sweeps in alfalfa, by district, as follows: Southeast 47, south central 187, southwest 284, west central 230, northwest 2,500, central 630. Predators generally low in all districts; slight increase in number of lady beetle larvae noted. (Minn. Ins. Rpt.). INDIANA - Ranged 2-4 per sweep on alfalfa in northern areas. (Huber, White). MARYLAND - Averaged 40 per sweep on alfalfa near Queenstown, Queen Annes County. (U. Md., Ent. Dept.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Increasing in scattered portions of central and south central areas. Ranged from 2 per 10 sweeps in southern Bryan County to 625 per 10 sweeps in Pauls Valley area of Garvin County. Ranged 1-30 per 10 sweeps in alfalfa in Payne, Garfield, Major and Choctaw Counties. (Okla. Coop. Sur.). ARKANSAS - Very low in northwest area; only occasional aphid collected. (Ark. Ins. Sur.). MISSOURI - Ranged 500-1,000 per 100 sweeps in St. Francois County alfalfa. (Houser). SOUTH DAKOTA - Recovered for first time in Hughes County east of Pierre; averaged less than 3 per 100 sweeps in alfalfa. (Jones).

CLOVER APHID (Anuraphis bakeri) - WASHINGTON - Abundant on some red clover grown for seed at Othello, Grant County; honeydew present at base of seed heads. (Landis).

MEADOW SPITTLEBUG (Philaenus spumarius) - OHIO - Adults very common on ripening oats and second-growth alfalfa in Jefferson and Carroll Counties; averaged 3 per sweep on oats. Averaged 2 adults per sweep in Carroll County alfalfa. (Rose). Adults ranged 1-9 per sweep on alfalfa near Canfield, Mahoning County. (Spadafora). Niemczyk). MARYLAND - Counts of over 10 adults per sweep common on alfalfa in Frederick County. (U. Md., Ent. Dept.).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Common on alfalfa, soybeans and clover in most areas. (Burbutis, Woodall). MARYLAND - Adults and nymphs common on alfalfa in Frederick, Queen Annes and Talbot Counties. (U. Md., Ent. Dept.). OHIO - Adults frequently averaged 1 per sweep in alfalfa in Carroll County; counts about half as great in oats in same area. (Rose). ARKANSAS - Adults and nymphs range 200-300 per 100 sweeps in alfalfa in northwest area. (Ark. Ins. Sur.). OKLAHOMA - Ranged 9-16 per 10 sweeps in alfalfa in most fields checked in central, north central and south central areas. Averaged 36 per 10 sweeps in one field in Bryan County; averaged 10 per 10 sweeps in Choctaw County. (Okla. Coop. Sur.). SOUTH DAKOTA - Averaged 0.5 per sweep in second-crop alfalfa in Brookings County. (Jones).

LYGUS BUGS (Lygus spp.) - WASHINGTON - Adults increased 7 to 25-fold in 5 days from fly-in reinfestations in alfalfa seed fields near Walla Walla, Walla Walla County. (Johansen, Eves, June 28). ARIZONA - Infestations heaviest in alfalfa seed fields in Yuma County; nymphal populations high in alfalfa in Graham County. (Ariz. Coop. Sur.). WYOMING - Adults and nymphs ranged 60-85 per 100 sweeps in alfalfa in Goshen and Laramie Counties. (Marks).

PLANT BUGS - INDIANA - Lygus lineolaris (tarnished plant bug) and Adelphocoris lineolatus (alfalfa plant bug) ranged 1-2 per sweep throughout northern half of State. (Huber, White). MINNESOTA - A. lineolatus per 100 sweeps in alfalfa, by district, as follows: Southeast 31, south central 55, southwest 80, west central 55, northwest 3, central 178. Counts of L. lineolaris per 100 sweeps, as follows: Southeast 9, south central 8, southwest 8. (Minn. Ins. Rpt.). SOUTH DAKOTA - A. lineolatus averaged 3.4 per sweep in second-crop alfalfa in Brookings County. (Jones). NORTH DAKOTA - Adelphocoris lineolatus averaged 2 per sweep in alfalfa at Casselton, Cass County. (Frye, Thomasson). UTAH - A. superbus (superb plant bug) common in alfalfa in Fillmore and Delta areas of Millard County and in Uintah Basin in eastern part of State. (Knowlton).

POTATO LEAFHOPPER (Empoasca fabae) - DELAWARE - Adults common in soybeans throughout most of State; average 5 per 10 sweeps. (Burbutis, Woodall). MARYLAND - Ranged 0-50 per sweep on alfalfa in Frederick and Queen Annes Counties; 5 fields showed injury. Nymphs common on soybeans in Queen Annes and Wicomico Counties. (U. Md., Ent. Dept.). OHIO - Adults ranged 2-8 per sweep in alfalfa near Canfield, Mahoning County. (Spadafora, Niemczyk). INDIANA - Adults ranged 1-5 per sweep in northern half of State. (Huber, White). ILLINOIS - Approximately 7 percent of second-crop alfalfa in northwest district and 22 percent in central district shows very light to moderate yellowing, apparently due to this pest. All first-crop alfalfa now beyond full bloom and showing severe yellowing. (Ill. Ins. Rpt.). WISCONSIN - Mostly adults in alfalfa; ranged 1-3 per sweep in most fields; ranged as high as 15 per sweep in few instances. Yellowing in regrowth alfalfa not yet evident. (Wis. Ins. Sur.). SOUTH DAKOTA - Averaged 0.3 per sweep in second-crop alfalfa in Brookings County. (Jones).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Ranged 40-130 per 100 sweeps on alfalfa in Yuma County; populations decreased slightly in Graham County. (Ariz. Coop. Sur.). OKLAHOMA - Ranged 1-6 per 10 sweeps in alfalfa checked in Bryan, Johnston, Murray and Garvin Counties. (Okla. Coop. Sur.).

CLOVER LEAFHOPPER (Aceratagallia sanguinolenta) - DELAWARE - Common on alfalfa, clover and soybeans in most areas. (Burbutis, Woodall).

THRIPS - MARYLAND - Moderate to heavy on corn and soybeans over State. Soybeans required treatments in several Eastern Shore fields. (U. Md., Ent. Dept.). OKLAHOMA - Frankliniella spp. moderate to heavy in peanuts checked in Garvin and Bryan Counties; some leaf distortion noted. (Okla. Coop. Sur.).

SPIDER MITES - MARYLAND - Tetranychus spp. light on border rows of soybeans adjacent to clover and grassy borders in Talbot County. (U. Md., Ent. Dept.). UTAH - Unspecified species building up on corn in Spanish Fork area, Utah County. (Duncan, Knowlton, June 28).

FRUIT INSECTS

ORCHARD MITES - VERMONT - Populations of Panonychus ulmi (European red mite) heavy with bronzing apparent on some delicious apple trees. (Nielsen, June 28). CONNECTICUT - P. ulmi and Tetranychus telarius (two-spotted spider mite) abundance varies throughout State. (Savos, June 30). NEW YORK - Red species and T. telarius are problems in some orchards in Clinton County; controls being applied. P. ulmi populations still low in Orleans County. Epitrimerus pyri (pear rust mite) not yet found in Orleans County; small numbers found occasionally in pear orchards in Niagara County. Red species beginning to increase in Niagara County. (N.Y. Wkly. Rpt., June 28). NEW JERSEY - P. ulmi abundant in some orchards. Controls urged. (Ins.-Dis. Newsltr.). MARYLAND - P. ulmi increasing on apples in Hancock area, Washington County. (U. Md., Ent. Dept.). PENNSYLVANIA - T. telarius more numerous than in recent years, but P. ulmi still predominant species on apple trees in southern section. (Asquith, June 29). OHIO - Large numbers of P. ulmi eggs and average of 9 adults per leaf on apples near Harrisburg, Carroll County. Averaged 3 per leaf on Grimes Golden apple trees near Rushville, Perry County. (Rose). P. ulmi averaged about 2 per leaf on apple trees near Wooster, Wayne County. (Rader, Neal). MISSOURI - T. telarius present in all orchards and probably most serious pest. Counts range 1-400 per leaf in central section. P. ulmi now replacing T. telarius in most orchards. Both species serious threat if weather turns dry. (Wkly. Rpt. Fr. Grs. June 30). CALIFORNIA - E. pyri adults heavy on Bartlett pear trees in La Grange, Stanislaus County. (Cal. Coop. Rpt.).

CODLING MOTH (Carpocapsa pomonella) - VERMONT - Active; continued protection recommended. (Nielsen, June 28). NEW YORK - Flights in eastern section varied with evening temperatures; greatest emergence of season June 17-18. Adult emergence 65 percent complete in cage at Highland June 24. Emergence continued steady in Geneva cages through June 28. Heaviest emergence June 11. Very active in unsprayed orchards in Niagara County. (N.Y. Wkly. Rpt., June 28). MARYLAND - Second-brood emergence expected July 3 in Hancock area. (U. Md., Ent. Dept.). OHIO - Eggs hatching at Wooster, Wayne County. (Rader, Neal). MIGHIGAN - Emergence of first-brood adults increased during June 23-30 period; total of 19 adults emerged in cage in Kent County where 6 emerged previous week. Stings numerous in unsprayed orchards. (Gilmore, Wooley). MISSOURI - Larvae 90 percent pupated; second brood expected July 4 in central section. (Wkly. Rpt. Fr. Grs., June 30). ARIZONA - Infesting green apples in Graham County. Controls necessary. (Ariz. Coop. Sur.). CALIFORNIA - Larvae medium in apple fruit in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt.). OREGON - Heavy in unsprayed apple and pear orchards in Jackson County. Infestations up to 90 percent are common. (Berry).

LEAF ROLLER MOTHS - NEW YORK - Archips argyrospilus (fruit-tree leaf roller) adults began appearing in traps in eastern section June 14, but were noted in orchards several days earlier. Abundant since June 21. A. rosaceanus (oblique-banded leaf roller) has decreased in traps in eastern section. Argyrotaenia velutinana (red-banded leafroller) pupae found at Geneva June 28. Adult flights expected week of July 5. (N.Y. Wkly. Rpt., June 28). MISSOURI - No Argyrotaenia velutinana observed to date. (Wkly. Rpt. Fr. Grs., June 30).

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma) - NEW HAMPSHIRE - Larvae pupating on wild apple at Durham. (Morse, Sutherland).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - NEW YORK - Heavy flights started June 18 in eastern section. (N.Y. Wkly. Rpt., June 28).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - MISSOURI - Under control in most orchards; all areas between broods. (Wkly. Rpt. Fr. Grs., June 30). COLORADO - Second-brood adults reached peak June 19 in Palisade area, Mesa County. (Urano). CALIFORNIA - Light in traps in peach trees in Corning, Tehama County. This is a new county record and the northernmost record in the State. (Cal. Coop. Rpt.).

APPLE-AND-THORN SKELETONIZER (Anthophila pariana) - OREGON - First-generation adults emerging from coccoons on apple leaves in Willamette Valley. Heavier than usual; already much damage in unsprayed apple orchards. (Larson).

PEACH TWIG BORER (Anarsia lineatella) - OREGON - Adults began appearing in peach orchards in Jackson County area June 9. (Berry).

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - First emergence expected soon. (Nielsen, June 28). CONNECTICUT - Adult emergence about normal at Glastonbury, low in other localities. Increased emergence expected in areas that received enough rain. (Savos). NEW YORK - Emergence increasing rapidly at Highland; females still most numerous. First adults found in cages at Geneva, Ontario County, June 23. Emergence continues slowly. Rapid emergence continues in cages near Middleport and fairly large numbers observed in unsprayed orchard near Newfane, Niagara County. Emergence in Monroe County steady since beginning June 23. (N.Y. Wkly. Rpt., June 28). NEW JERSEY - Sticky board traps caught 160 adults on 2 boards at Hardingville, 25 adults on 2 boards at Hurffville, and 4 adults on 6 boards at Cranbury, July 2. (Ins.-Dis. Newsltr.). MICHIGAN - Early heavy adult emergence underway in southern and central sections since June 24. (Wooley et al.). WISCONSIN - Adult flights continue. Larvae 4 millimeters long found feeding on seeds of apple in untreated orchard in Madison. (Wis. Ins. Sur.). MINNESOTA - Traps in place in La Crescent and Rochester areas; no adults reported. (Minn. Ins. Rpt.).

CHERRY MAGGOT (Rhagoletis cingulata) - NEW YORK - Occasional adult emergence continues in cage at Webster; emergence stopped in 2 other cages in Webster County June 24. (N.Y. Wkly. Rpt.).

APHIDS - CONNECTICUT - Aphis pomi (apple aphid) more noticeable on sucker growth in all sections. Particularly heavy in orchard in Storrs and heavy on unsprayed trees at New Haven. (Savos). NEW YORK - General rapid increase of A. pomi noted on terminal leaves in orchards in Clinton County. (N.Y. Wkly. Rpt., June 28). MISSOURI - A. pomi heavy on water sprouts on nearly all apple trees. Few Eriosoma lanigerum (woolly apple aphid) found in orchard in central section June 30. (Wkly. Rpt. Fr. Grs.). NEVADA - Anuraphis rosea (rosy apple aphid) varies light to heavy on apple in Lovelock, Pershing County. (Ferraro). UTAH - Myzus cerasi (black cherry aphid) very conspicuous in orchards in Salt Lake County. (Knowlton, Burningham).

PEAR PSYLLA (Psylla pyricola) - NEW YORK - Eggs hatching rapidly in Niagara County. (N.Y. Wkly. Rpt., June 28). CONNECTICUT - Large numbers of adults on unsprayed trees in Storrs. (Savos, June 30).

SAN JOSE SCALE (Aspidiotus perniciosus) - CALIFORNIA - Medium on untreated plum trees in Gridley, Butte County. (Cal. Coop. Rpt.). OREGON - Eggs hatching on pear trees in Jackson County June 16. (Berry).

APPLE CURCULIO (Tachypterellus quadrigibbus) - NEW YORK - Feeding scars evident on apples in Westport area, Clinton County, June 23. (N.Y. Wkly. Rpt.).

PLUM CURCULIO (Conotrachelus nenuphar) - MARYLAND - Reported damaging peaches in Baltimore County. (U. Md., Ent. Dept.).

A MAY BEETLE - OKLAHOMA - Undetermined species damaging ripe fruit, especially plums, in Payne and Noble Counties. (Okla. Coop. Sur.).

PEAR SLUG (Caliroa cerasi) - CALIFORNIA - Larvae heavy on plum trees locally in Chula Vista, San Diego County. (Cal. Coop. Rpt.).

PERIODICAL CICADAS (Magicicada spp.) - OHIO - Still active in Perry, Fairfield, Jefferson, Carroll and southeastern Stark Counties. (Rose).

WHITE APPLE LEAFHOPPER (Typhlocyba pomaria) - CONNECTICUT - Injury very noticeable on unsprayed trees in New Haven. Large numbers reported in Bantan. (Savos, June 30). PENNSYLVANIA - Damaging apple leaves in Wayne County. (Gesell, June 28).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - UTAH - Moderate in apple orchards in St. George-Santa Clara area, Washington County. (Knowlton, June 29).

A CICADA (Tibicen canicularis) - ARIZONA - Egg punctures causing some damage to young citrus trees in Yuma County. (Ariz. Coop. Sur.).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Increasing in commercial citrus in Yuma County. (Ariz. Coop. Sur.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Increasing due to unseasonably low temperatures. Some treatments necessary in Yuma County. (Ariz. Coop. Sur.).

PURPLE SCALE (Lepidosaphes beckii) - CALIFORNIA - Heavy on Valencia orange trees locally in Coronado, San Diego County. (Cal. Coop. Rpt.).

BLACK CITRUS APHID (Toxoptera aurantii) - CALIFORNIA - Nymphs and adults heavy on citrus in Salinas, Monterey County. (Cal. Coop. Rpt.).

POTATO APHID (Macrosiphum euphorbiae) - CALIFORNIA - Nymphs and adults heavy on citrus in Salinas, Monterey County. (Cal. Coop. Rpt.).

PAPAYA FRUIT FLY (Toxotrypana curvicauda) - FLORIDA - Larvae general and severely damaging fruit of papaya at Perrine, Dade County. (Herrmann, June 13).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Numbers continue unusually high in Miami area, Dade County. Tropical fruits and trap catches are being closely observed. Survey program being greatly enlarged to help evaluate situation. (Fla. Coop. Sur.).

SPITTLEBUGS - SOUTH CAROLINA - Unspecified species injuring pecans in Horry County. (Nettles et al., June 29). ALABAMA - Clastoptera achatina (pecan spittlebug) medium locally on pecans in Baldwin County. Nymphs congregating in spittle around buds and base of nuts. (Turner).

PECAN NUT CASEBEARER (Acrobasis caryae) - ALABAMA - Light to moderate in Baldwin and Convington Counties. Isolated light infestations in other south and central counties. (Turner, Linder, et al.). OKLAHOMA - Moderate in Bryan, Choctaw and Osage Counties. (Okla. Coop. Sur.).

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - Eggs hatching on pecan trees in Stillwater area, Payne County. (Okla. Coop. Sur.).

RED-HUMPED CATERPILLAR (Schizura concinna) - CALIFORNIA - Medium in Persian walnut trees in Woodland, Yolo County. (Cal. Coop. Rpt.).

A LEAF ROLLER MOTH (Archips rosanus) - OREGON - Adults emerging in Willamette Valley. More damage than normal noted in filberts. (Every).

APHIDS - ALABAMA - Several species extremely heavy in Mobile County. Lesser numbers affecting pecans in Baldwin, Washington, Escambia, Covington and Bullock Counties. Not serious in central and northern counties to date. (Deakle et al.).

BLACK-MARGINED APHID (Monellia costalis) - ARIZONA - Rains decreased heavy infestations in Graham County. (Ariz. Coop. Sur.).

RASPBERRY CANE BORER (Oberea bimaculata) - VERMONT - Unusually destructive. (Nielsen, June 28).

CURRANT FRUIT FLY (Epochra canadensis) - WASHINGTON - Damaging gooseberries at Spangle, Spokane County. In pupal stage June 28. (Telford).

EIGHT-SPOTTED FORESTER (Alypia octomaculata) - NEW YORK - Active but not serious in occasional vineyards in Chautauqua County. (N.Y. Wkly. Rpt., June 28).

GRAPE BERRY MOTH (Paralobesia viteana) - MARYLAND - Larvae light on concord grapes at College Park, Prince Georges County. (U. Md., Ent. Dept.). MIGHIGAN - Adults taken in Van Buren County June 25 and 28. (Dowdy).

GRAPE ROOT BORER (Vitacea polistiformis) - ARKANSAS - Pupae present and adult emergence will occur soon in northwest section. (Ark. Ins. Sur.).

ROSE CHAFER (Macrodactylus subspinosus) - VERMONT - Abundant on grapes in Middlebury area. (Nielsen, June 28). NEW YORK - More active than usual in vineyards on sandy soil in Chautauqua County. (N.Y. Wkly. Rpt.).

GRAPE CANE GALL MAKER (Ampeloglypter sesostris) - IOWA - Found on terminal growth of grapes in Harrison County June 17. Det. by J. L. Laffoon. (Iowa Ins. Inf., June 28).

TRUCK CROP INSECTS

TOMATO FRUITWORM (Heliothis zea) - DELAWARE - Injuring tomatoes in areas of New Castle and Kent Counties. (Burbutis). MARYLAND - Light in commercial tomato fields in Dorchester and Worchester Counties. (U. Md.,Ent. Dept.).

TOMATO HORNWORM (Protoparce quinquemaculata) - MICHIGAN - A few adults appearing in blacklight traps in southern Counties. (Newman, Ruppel). UTAH - Few on tomato plants in canning crop areas of northern section. (Knowlton, June 28).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Larvae infesting garden potatoes and Swiss chard near Wye Mills, Queen Annes County. (U. Md., Ent. Dept.).

POTATO LEAFHOPPER (Empoasca fabae) - NEW HAMPSHIRE - Adults building up on potato and string beans at Litchfield. (Sutherland). NEW JERSEY - Counts in 6 fields in center section July 2 ranged 74-980 per 25 sweeps and averaged 294. (Ins.-Dis. Newsltr.). DELAWARE - Increased on lima beans in Kent and Sussex Counties. Common to abundant on snap beans in areas of Sussex County. (Burbutis). MICHIGAN - Adult populations built up recently in fields of potatoes and beans in Clinton County; and ranged up to more than 15 per sweep in alfalfa in Monroe County June 29. (Wells, Newman). MINNESOTA - Counts generally low in valley of the Red River of the North but some damage showing up on potatoes. Some controls applied. (Minn. Ins. Rpt.).

LEAFHOPPERS - NEW MEXICO - Unspecified species very abundant on foliage of potato and squash near Rincon, Dona Ana County. Averaged over 100 adults and nymphs per 25 sweeps on potato and over 200 on squash. (Garcia, Gomez).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - RHODE ISLAND - Larvae common on potato in Kingston, Washington County. (Sorensen, Mathewson). NEW YORK - Few larvae reported on potatoes in Niagara County. (N.Y. Wkly. Rpt., June 28). MICHIGAN - Larvae and feeding damage in commercial and garden plantings in some lower peninsula counties. (Wells, Newman, Gilmore). COLORADO - Present in most potato fields in Weld County. Controls underway. (Urano). UTAH - Moderate on potatoes and tomatoes in Davis and Weber Counties, light on tomatoes in southern Box Elder County, south of Willard. (Knowlton, Duncan, Finch, June 28). IDAHO - Adults and all stages of larvae heavy in potato field at Bruneau. Larvae and adults on potatoes in margins of fields in Canyon and Owyhee Counties. (Homan).

POTATO FLEA BEETLE (Epitrix cucumeris) - MAINE - Overwintered adults very small with trace feeding injury on foliage of potatoes in Presque Isle area, Aroostock County. (Shands). MICHIGAN - Large numbers of adults feeding on host plants in Berrien and Clinton Counties. (Belter, Wells). COLORADO - Present in most potato fields in Weld County. Controls underway. (Urano).

A BLISTER BEETLE (Epicauta sp.) - MAINE - Probably this genus especially injurious to potatoes and tomatoes on farm near Masardis. (Shands).

POTATO PSYLLID (Paratriosa cockerelli) - NEBRASKA - Adults range 2-6 per 100 sweeps on lycium and 6-136 per 100 sweeps on potato cull piles. None found on treated early potatoes. (Hagen). COLORADO - Present in most potato fields in Weld County. Controls underway. (Urano). WYOMING - None taken in potato fields in Goshen and Laramie Counties. Eggs, nymphs and adults numerous on matrimony vine and cull potato piles at Torrington, Goshen County, and Pine Bluffs, Laramie County. (Marks).

Aphids on Potatoes in Maine - In untreated plantings of same age at Presque Isle, percentage of infested plants increased 5-fold; number of aphids per plant increased 7-fold. Numbers still very small but 3 times higher than in 1964 and about same as in 1963. Macrosiphum euphorbiae (potato aphid) predominates with Aphis nasturtii (buckthorn aphid) and Myzus persicae (green peach aphid) each about one-nineth as numerous. Spring migrations of these 3 species virtually complete. Single infestation of Acyrthosiphon solani found. (Shands et al.).

GREEN PEACH APHID (Myzus persicae) - RHODE ISLAND - Apparent in potato fields in Kingston area, Washington County. (Kerr). NEW YORK - Fairly large numbers increasing in poorly protected potato fields in Suffolk County. (N.Y. Wkly. Rpt., June 28). DELAWARE - Present on young pepper plants in most areas. (Boys). COLORADO - Present in most potato fields in Weld County. Controls underway. (Urano).

POTATO APHID (Macrosiphum euphorbiae) - RHODE ISLAND - Apparent in potato fields in Kingston area, Washington County. (Kerr). MARYLAND - Scattered light to medium on tomatoes on lower Eastern Shore. (U. Md., Ent. Dept.).

EUROPEAN EARWIG (Forficula auricularia) - IDAHO - Skeletonized leaves of potatoes in field margins in Canyon and Owyhee Counties. (Homan).

PEPPER MAGGOT (Zonosemata electa) - NEW JERSEY - Sticky board traps at Cedarville caught 4 adults on 4 boards July 2. (Ins.-Dis. Newsltr.).

CABBAGE MAGGOT (Hylemya brassicae) - MIGHIGAN - Heavy emergence of second-brood adults in Clinton County research plots. (Wells). WISCONSIN - High populations of larvae and pupae on cabbage in Racine-Kenosha area. Seriously damaged cabbage in Shiocton area, Outagamie County; some replanting necessary. (Wis. Ins. Sur.). NORTH DAKOTA - Moderate in garden at Fargo, Cass County. (Dogger).

FLEA BEETLES - MARYLAND - Phyllotreta spp. heavy on garden cabbage near Wye Mills, Queen Annes County. (U. Md., Ent. Dept.). MINNESOTA - Unspecified species causing light feeding damage in some potato fields in valley of the Red River of the North. (Minn. Ins. Rpt.).

IMPORTED CABBAGEWORM (Pieris rapae) - MICHIGAN - Heavy flights of newly emerged adults in many counties in lower peninsula. (Janes, Newman, Ruppel).

VARIEGATED CUTWORM (Peridroma saucia) - NORTH DAKOTA - Moderate on cabbage in Fargo and Carrington areas. (Frye).

MEXICAN BEAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Larvae and adults increased considerably on lima and snap beans in much of State. (Barwood). COLORADO - Adults causing slight damage in bean fields in Weld County. (Urano). UTAH - Damaging beans in gardens in Cache and Salt Lake Counties. (Knowlton).

BEAN APHID (Aphis fabae) - DELAWARE - Abundant in a large lima bean field in eastern Sussex County. (Burbutis).

PEA APHID (Acyrthosiphon pisum) - MISSOURI - Numbers very high on 20 acres of purple hull southern peas in Pemiscot County. Controls applied. (DiCarlo). OKLAHOMA - Reported heavy on black-eyed peas in Dewey County. (Okla. Coop. Sur.).

PAINTED LADY (Vanessa cardui) - COLORADO - Larvae damaging bean fields locally in Larimer County area. (Hantsbarger).

SPIDER MITES (Tetranychus spp.) - MARYLAND - Building up on lima and snap beans, cantaloups and watermelons at various locations in southern sections. (U. Md., Ent. Dept.). OKLAHOMA - Damaging in home gardens in Payne, Kay and Marshall Counties. Most damage on beans and tomatoes. (Okla. Coop. Sur.).

THRIPS - DELAWARE - Several species continue to increase on beans in most areas. (Burbutis). OHIO - Reported injuring muskmelon leaves in Sandusky County. (Maddy, Holdsworth).

ONION MAGGOT (Hylemya antiqua) - NEW YORK - Continues active in Genesee County. (N.Y. Wkly. Rpt., June 28). WISCONSIN - Causing some damage to gardens and untreated onion fields. (Wis. Ins. Sur.). UTAH - Infesting onions in gardens in Cache and Weber Counties. (Knowlton). IDAHO - Relatively large populations in untreated seed and bulb onion plantings in Canyon and Owyhee Counties. (Holman).

ASPARAGUS BEETLES (Crioceris spp.) - RHODE ISLAND - C. asparagi (asparagus beetle) common on asparagus in Scituate, Providence County; greatly outnumbered C. duodecimpunctata (spotted asparagus beetle). At East Greenwich, Kent County, C. duodecimpunctata extremely abundant and C. asparagi uncommon. (Mathewson, Sorensen). INDIANA - C. asparagi eggs common on ferns throughout northern third of State. (Huber). MISSOURI - C. asparagi adults averaged 40 per square foot in garden in Boone County. (Wingo).

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - COLORADO - Larvae damaging sugar beets in western Weld County. (Urano).

BEET LEAFHOPPER (Circulifer tenellus) - COLORADO - Average 2-3 per square foot of row in a few sugar beet fields in Delta and Mesa Counties. Most fields average less than one per square foot. (Bulla).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - WASHINGTON - All stages on sugar beets in Yakima Valley, eggs very abundant. Damage light but populations increasing rapidly. (Wallis, June 28).

SQUASH BUG (Anasa tristis) - MARYLAND - Eggs found on garden squash in Caroline County. (U. Md., Ent. Dept.). OKLAHOMA - Averaged 10 per vine on squash in Dewey County. Reported heavy on melons and squash in Choctaw County and moderate in Kingfisher County. (Okla. Coop. Sur.).

SQUASH VINE BORER (Melittia cucurbitae) - MARYLAND - Heavy in garden planting of squash near Denton, Caroline County. (U. Md., Ent. Dept.). IOWA - First adult of season found at Ames June 22, quite early in season. (Iowa Ins. Inf., June 28).

WIREWORMS - UTAH - Damaging cantaloups at Perry, Box Elder County. (Knowlton, Finch, June 28).

A CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - NEW MEXICO - Adults averaged 8-10 per 25 sweeps in squash and cucumber fields in southern Dona Ana County. (Gomez, Garcia).

STALK BORER (Papaipema nebris) - NEW HAMPSHIRE - Probably this species in ripe strawberry fruit at Lodonderry. (Conklin).

STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) - UTAH - Heavy in strawberry patch at North Logan, Cache County. (Knowlton). OREGON - Common but not yet a problem in strawberry fields in Willamette Valley. (Every).

CYCLAMEN MITE (Steneotarsonemus pallidus) - OHIO - Infesting some strawberry plants in Carroll County. (Showalter, Holdsworth).

STRAWBERRY APHID (Chaetosiphon fragaefolii) - OREGON - Heavy on strawberry plantings in Yamhill County. (Every).

A WEEVIL (Sciopithes obscurus) - OREGON - Adults active in many strawberry fields in Linn County. (Every).

DRIED-FRUIT BEETLE (Carpophilus hemipterus) - CALIFORNIA - Adults medium in strawberry fruit in Willows, Glenn County. (Cal. Coop. Rpt.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - WISCONSIN - Numerous and causing severe yellowing of plants in raspberry plantings in northwest section. (Wis. Ins. Sur.). WASHINGTON - Infestations on peppermint near Othello, Grant County, near normal in spite of cool weather. (Landis).

CABBAGE LOOPER (Trichoplusia ni) - WASHINGTON - All larval stages of this and other looper species causing light to moderate damage in peppermint fields in Othello area, Grant County. (Landis).

APHIDS - WASHINGTON - Myzus persicae (green peach aphid) and Ovatus crataegarius (a mint aphid) apterae present in peppermint fields. Populations increasing and causing concern at Othello, Grant County. (Landis).

CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis) - IDAHO - Adults averaged 1-2 per sweep in mustard seed fields at Moscow. (Futter, Portman).

HARLEQUIN BUG (Murgantia histrionica) - TEXAS - Heavy and widespread in home gardens in El Paso County. (Dickson).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults common and causing moderate injury to tobacco in most fields checked in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Light on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Light to moderate and expected to increase on more advanced tobacco in all tobacco-growing counties. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Punctured squares averaged 53 (range 22-76) percent in 15 untreated fields in Sampson, Wayne, Johnston, Wilson, Greene, Pitt and Martin Counties; averaged 2 (range 0-4) percent in 10 treated fields in same counties. (Mount). SOUTH CAROLINA - Continues to emerge from hibernation in all areas of State. Infestations much heavier than average, even in best protected fields. Percent infestation in treated fields averaged 9 percent and in untreated fields 37 percent, compared with 3 percent and 10 percent in 1964. (Cott. Ltr., June 28). ALABAMA - Heavy infestations continue in south, central, eastern and western areas. For first time since 1962, square infestations caused by overwintering weevils exceeding 10 percent in extreme northern area. Populations expected to be high. (McQueen). MISSISSIPPI - Punctured squares in 20 of 21 delta fields examined. Infestation light; average of 2.7 percent, high of 23 percent. First-generation weevils emerging in older cotton. (Pfrimmer et al.). LOUISIANA - Infestations increasing in some Madison Parish fields. In 66 fields examined, average of 8 percent punctured squares; range 0-60 percent. Few weevils in young cotton, 5 in 29 fields examined. (Cleveland et al.). TENNESSEE - Activity increasing. Not all fields examined infested, but infested fields ranged from 1 percent to 28 percent infested squares with average of 6 percent. (Locke). OKLAHOMA - First adult of season noted in southern Bryan County. Punctured squares found in Bryan and Garvin Counties. (Okla. Coop. Sur.). TEXAS - Activity remains light in Falls and McLennan Counties. Punctured squares ranged 0-18 percent in 20 treated fields, average 1.9 percent; in 34 untreated fields, ranged 0-33 percent, averaged 6.1 percent. (Cowan et al.). Increasing in Blacklands area. Overwintering weevils found in approximately 50 fields below Caprock in high plains area. Also present in rolling plains counties. Heaviest counts 550, 350 and 250 weevils per acre in McCulloch, Tom Green and Runnels Counties respectively. (Texas Coop. Rpt.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Infestations on untreated cotton ranging up to 10 percent in 4 counties reporting; controls recommended. (Cott. Ltr.). ALABAMA - Infestations continue light but numbers building up in some isolated areas. (McQueen). MISSISSIPPI - Light, although injury found in 19 of 21 fields checked. Injured square counts averaged 0.8 percent, with maximum of 2.6 percent. Moth flight low. (Pfrimmer et al.). LOUISIANA - Little moth activity and few eggs deposited in Madison Parish. Average percent damaged squares in 24 fields 4, with range 0-16 percent. (Cleveland et al.). ARKANSAS - In Jefferson County, of 1,326 fields checked, 71 percent had no bollworms and 77 percent no eggs; this compares with 59 and 49 percent for same period in 1964. Although some moth counts made on sugar in Desha County, none were taken in light traps. (Ark. Ins. Sur.). TENNESSEE - Light but some injury found in almost every field examined. (Locke). MISSOURI - Larvae ranged 0-2 per 100 terminals in 4.7 percent of 824 fields examined and eggs 0-3 per 100 terminals. (Jones, June 30). TEXAS - Populations in lower Rio Grande Valley general but light. Moderate numbers in Runnels County, but light in other areas reporting. (Texas Coop. Rpt.) ARIZONA - Scattered, light infestations in Gila Valley, Yuma County. Infestation observed in squares and early blooms with light damage in Pinal County. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Light numbers present in Reeves and Pecos Counties. (Texas Coop. Rpt.). ARIZONA - Small larvae occassionally found in Graham County. (Ariz. Coop. Sur.). CALIFORNIA - Unusually abundant in Huron-Five Points area, Fresno County. (Stromberg, June 23).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Light infestations appearing in some Pima County fields. (Ariz. Coop. Sur.). CALIFORNIA - Continues active in Firebaugh area, Fresno County. (Stromberg, June 23). Low populations, not economic in Imperial County. (Campbell, June 24). TEXAS - Heavy infestations in Midland County, but light in Reeves County. (Neeb).

STALK BORER (Papaipema nebris) - TEXAS - Continues to damage terminals and occasional squares in McLennan and Fall Counties. Populations lighter than previous week; 48 fields averaged 1.3 per 100 terminals with range of 0.3 to 7. (Cowan et al.).

COTTON SQUARE BORER (Strymon melinus) - TENNESSEE - Observed feeding in terminal buds. (Locke). TEXAS - Occasionally found in fields in McLennan and Fall Counties. (Cowan et al.).

GARDEN WEBWORM (Loxostege similalis) - TEXAS - Damage to terminals reported from Grimes County. Observed in many fields of rolling plains counties. (Texas Coop. Rpt.).

FLEAHOPPERS - ALABAMA - Light throughout State. (McQueen). MISSISSIPPI - Populations low. (Pfrimmer et al.). LOUISIANA - Light; only 17 found in 64 fields examined in Madison Parish. (Cleveland et al.). TENNESSEE - Appears on increase but still light. (Locke). TEXAS - Increase noted in McLennan and Falls Counties with damage in 38 of 39 untreated fields and 16 of 27 treated fields inspected. (Cowan et al). Light to moderate in Reeves and Pecos Counties and light in other counties reporting. (Texas Coop. Rpt.). ARIZONA - Black fleahopper infestations on increase in Graham County; reached peak in Pinal County. Green fleahopper infestations on increase in Graham County and still high in Pinal County. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - TEXAS - Light to moderate infestations reported from Hudspeth and El Paso Counties. (Neeb). ARIZONA - Increasing populations and migrations from desert still common in Pinal County. Treatments applied in Roll area of Yuma County. Population increasing in Graham County and damage noted. (Ariz. Coop. Sur.). CALIFORNIA - High counts, up to 20 per 50 sweeps, found in Clovis, Helm, San Joaquin and Tranquillity areas, Fresno County. (Stromberg, June 23). Severe injury in some areas on east side of Tulare County with counts of 12-16 per 50 sweeps. (Hoover, June 25). Populations on increase in Imperial County but not yet economic. (Campbell, June 24).

PLANT BUGS - ALABAMA - Found in isolated fields. (McQueen). MISSISSIPPI - Populations low in most delta fields, with very few having damaging populations. (Pfrimmer et al.). LOUISIANA - Counts light in 64 fields examined in Madison Parish; only 22 tarnished plant bugs found. (Cleveland et al.). TENNESSEE - On increase, but populations still low. (Locke). MISSOURI - Ranged 0-19 per 100 terminals in 76 percent of 824 fields scouted. (Jones).

APHIDS - SOUTH CAROLINA - Appear to be less abundant than during average year. (Cott. Ltr.). OKLAHOMA - Light numbers in Bryan and Major Counties. (Okla. Coop. Sur.). MISSOURI - Found in 10 percent of 824 fields examined; no controls applied. (Jones).

THRIPS - SOUTH CAROLINA - Damage decreasing. (Cott. Ltr.). OKLAHOMA - Light to moderate infestations in Choctaw, Major and Cotton Counties. (Okla. Coop. Sur.). TEXAS - Populations decreasing in high plains area, light to heavy in rolling plains section and light damage in trans-Pecos area. (Texas Coop. Rpt.). ARIZONA - Light infestations continue in Pima County. (Ariz. Coop. Sur.).

GRASSHOPPERS - TEXAS - Damaging in local areas of several central counties. (Texas Coop. Rpt.).

SPIDER MITES - SOUTH CAROLINA - Few light infestations noted. (Taft et al.). ALABAMA - Light in isolated fields. (McQueen). TENNESSEE - On increase and spot controls urged where feasable. (Locke). MISSOURI - Spot infestations found in 17 percent of 824 fields checked and some localized treatments applied. (Jones). CALIFORNIA - Populations general throughout Fresno County. Cotton treated with systemic miticides at planting time generally free of infestations. (Stromberg, June 23). Few fields in Imperial County required treatment. (Campbell, June 24).

A LEAFHOPPER (Empoasca solana) - CALIFORNIA - Populations on increase in some Imperial County fields and controls necessary. Adults moved in from harvested beet fields. (Campbell, June 24).

WEATHER BUREAU'S 30-DAY OUTLOOK

JULY 1965

The Weather Bureau's 30-Day Outlook for July calls for temperatures to average below seasonal normals in the eastern half of the Nation except for near normal in the Gulf Coast Region. Above normal averages are expected from central portions of the Great Plains westward except for near normal in California and the Southern Plateau region. Elsewhere near normal temperatures are in prospect. Rainfall is expected to exceed normal over eastern portions of the Central and Southern Plateau and also in the upper Great Lakes Region. Subnormal amounts are called for in the Atlantic Coastal States as well as most of the Northern and Central Plains and the South. Little or no rainfall is also indicated for California, while in unspecified areas near normal totals are anticipated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

FOREST ORNAMENTAL AND SHADE TREE INSECTS

JACK-PINE BUDWORM (Choristoneura pinus) - MINNESOTA - Defoliation of older trees moderate to heavy along main road in St. Croix State Park east of Hinckley; pupation approximately 15 percent. Very few fourth to sixth-stage larvae noted in Sturgeon River State Forest and at Side Lake, McGregor, Biwabik and Willow River areas. Light infestation noted on roadside trees in Faunce area south of Williams, Lake of the Woods County. Larvae still feeding June 24, mainly on staminate flowers. (Minn. Ins. Rpt.). WISCONSIN - Pupation underway June 25 in Polk and Burnett Counties; larvae in last instar in Douglas County. (Wis. Ins. Sur.).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - NEW YORK - Adults emerging in Ithaca area. (N.Y. Wkly. Rpt., June 28).

A PINE NEEDLE-SHEATH MINER (Zellaria haimbachia) - OREGON - Browning of pine needles and severe defoliation in Multnomah County caused many complaints by home-owners. (Nicolaison).

ENGRAVER BEETLES (Ips spp.) - OKLAHOMA - Moderate on pines checked in Le Flore County. (Okla. Coop. Sur.).

PINE CHAFER (Anomala oblivia) - MICHIGAN - Adults active and causing moderate damage to Scotch pine in Benzie County. (Wallner).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - UTAH - Damaging some blue spruce at Logan, Cache County. (Knowlton).

PINE TORTOISE SCALE (Toumeyella numismaticum) - MINNESOTA - Crawlers common on infested trees in east central and northeast districts. (Minn. Ins. Rpt.). MICHIGAN - Egg hatch approximately 20 percent in Benzie County. (Dowdy).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - UTAH - Damaged blue spruce in Salt Lake City area, Salt Lake County. (Knowlton).

CONIFER SAWFLIES - MINNESOTA - Diprion similis (introduced pine sawfly) larvae mostly in first and second stages, although some middle stages present, in east central and northeast districts. Neodiprion pratti banksianae (jack-pine sawfly) larvae still feeding in scattered locations in east central and northeast areas. (Minn. Ins. Rpt.). INDIANA - Scattered, light infestation of N. pinetum (white-pine sawfly) reported on white pine in South Bend area, St. Joseph County. (Schuder). ALABAMA - N. lecontei (red-headed pine sawfly) larvae defoliated most small pines on city block in Cottage Hill, Mobile County. (Fairley, Seibels). MISSOURI - Neodiprion sp. reported on isolated roadside planting of shortleaf pine in Barry County April 30, on small planting of shortleaf and loblolly pines in Neosho area of Newton County May 14, and on isolated young Scotch pine trees in Adair County; on May 27, complete defoliation of an erosion planting of ponderosa and shortleaf pines observed in Barry County. (Gass, Capps).

LARCH SAWFLY (Pristiphora erichsonii) - MINNESOTA - Major hatch occurred; larvae mostly first and second stages, with eggs still hatching. Some adults still active. (Minn. Ins. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - UTAH - Injury to elms increasing in Holladay area, Salt Lake County. (Knowlton, June 29). ARIZONA - Heavy numbers continue to defoliate elms in Coolidge and Florence areas of Pinal County. (Ariz. Coop. Sur.). OKLAHOMA - Moderate on elms in northeast, east central, southeast and central areas. (Okla. Coop. Sur.). ARKANSAS - Second-generation adults present in northwest area. (Ark. Ins. Sur.). ALABAMA - Second-generation larvae extremely heavy on elms along some streets in East Tallassee, Tallapoosa County, and few isolated elms in Lee County. Infestations generally lighter than at same time during 1964 season. (McQueen). INDIANA - Infestations unusually prevalent on Chinese elm throughout State. (Huber, Lahker). OHIO - Larvae damaged elms in

Franklin, Seneca and Delaware Counties. All larval stages found in Delaware County, but pupation beginning. (Gamble et al.). DELAWARE - Larvae causing heavy injury to elm foliage in areas of New Castle County. (Burbutis, Woodall).

LOCUST LEAF MINER (Xenochalepus dorsalis) - OHIO - Foliage destruction of up to 30 percent observed on black locust trees in some areas of Guernsey County. Egg parasitism common; may be holding populations down. (Galford).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - NEW HAMPSHIRE - First adult of season noted June 28 at Durham, Strafford County. (Morse). NORTH CAROLINA - Freshly laid eggs noted on crab apple in Durham County June 11. (J. Green).

FOREST TENT CATERPILLAR (Malacosoma disstria) - IDAHO - Larvae feeding on golden willow in windbreak at Chester. (Garner). UTAH - This and other larvae damaging willow foliage in Logan Canyon, Cache County. (Knowlton).

SOLITARY OAK LEAF MINER (Cameraria hamadryadella) - MARYLAND - Heavy mining observed on chestnut oak at Indian Head, Charles County. (U. Md., Ent. Dept.).

SATIN MOTH (Stilpnotia salicis) - NEW YORK - Locally severe larval populations defoliated numerous very tall trees in Clinton County; pupation underway, most larvae full grown. (N.Y. Wkly. Rpt., June 28).

GYPSY MOTH (Porthetria dispar) - VERMONT - Larvae heavy on oak in Shoreham and Bridport areas, Addison County. (MacCollom).

A WEBWORM (Tetralopha asperatella) - PENNSYLVANIA - Moderate on scrub oak in northeast area June 29. (Gesell).

ARCTIID MOTHS - OKLAHOMA - Larvae of 2 species present in damaging numbers on sycamores in Shawnee area, Pottawatomie County. (Okla. Coop. Sur.).

MOURNING-CLOAK BUTTERFLY (Nymphalis antiopa) - IDAHO - Larvae infesting elm in Moscow about to pupate. (Manis, Smith). NEVADA - Larvae continue to damage elm and willow in southern Washoe County. (Coop. Rpt.). UTAH - Larvae damaged elm foliage about several homes at Ogden, Weber County. (Knowlton).

EUROPEAN ELM SCALE (Gossyparia spuria) - IOWA - Eggs hatching in Buena Vista County; crawlers dispersing. (Iowa Ins. Inf., June 28). OREGON - Young crawlers appeared on elms in Jackson County about June 15. (Berry).

COTTONY MAPLE SCALE (Pulvinaria innumerabilis) - NEW JERSEY - Crawlers active in Middlesex County. (Ins.-Dis. Newsltr.). UTAH - Infesting maple in areas of Utah County. (Knowlton, Winegar, June 28).

ELM SAWFLY (Cimbex americana) - NORTH DAKOTA - Larvae feeding on elm and willow in southern half of State. (Frye, Thomasson).

BIRCH LEAF MINER (Fenusa pusilla) - WISCONSIN - Infestation apparently general over State; noted on native trees in northwest. Larvae still present in leaves of birch in Douglas and Bayfield Counties. (Wis. Ins. Sur.). MICHIGAN - Infestations heavy in Charlevoix County. (Rebman).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Moderate to heavy on evergreens and other ornamentals in Choctaw, Coal, Bryan, Stephens, Dewey, Kingfisher, Osage and Mayes Counties. (Okla. Coop. Sur.). ARKANSAS - Heavy in northwest area as during past few years. (Ark. Ins. Sur.). ALABAMA - Larvae completely defoliated cedar on lawn in Walker County; migrated to camellias, privets and other shrubs. (Clark).

BOXELDER LEAF ROLLER (Gracilaria negundella) - IDAHO - Larvae infesting leaves of boxelder at Shoshone. (Hopkins). UTAH - Defoliating many boxelder trees in southern end of Cache Valley; damage also noted in Box Elder and Salt Lake Counties. (Knowlton, Waldron).

ARBORVITAE LEAF MINER (Argyresthia thuiella) - NEW YORK - Adult flight heavy about arborvitae in Ithaca area. (N.Y. Wkly. Rpt., June 28). NEW HAMPSHIRE - Adults noted flying at Exeter, Rockingham County, June 28. (Mason).

MIMOSA WEBWORM (Homadaula albizziae) - ARKANSAS - Heavy feeding occurring on some host trees. (Ark. Ins. Sur.). OHIO - Larvae numerous on honeylocust in Marion and Guernsey Counties; eggs through pupal stage found. (Galford, Peacock).

A GEOMETRID MOTH (Coryphista meadi) - CALIFORNIA - Larvae heavy on Mahonia aquifolia in Yuba City, Sutter County. (Cal. Coop. Rpt.).

A PSYCHID MOTH (Apterona crenulella) - UTAH - Larvae damaging garden flowers and shrubs in Bountiful area, Davis County. Heavily damaged many garden plants and weeds over area approximately 0.5 mile square in Granger area, Salt Lake County; great numbers moving to walls of houses and porches, present on wide variety of plants, with no injury to conifers noted. (Knowlton, Parrish, June 29).

PAINTED LADY (Vanessa cardui) - UTAH - Migration light in northern part of State; however, some damage to thistle noted. (Knowlton). NEVADA - Larvae of this species, V. carye and Trichoplusia ni (cabbage looper) light to medium on hollyhock in Lovelock, Pershing County. (Bechtel, Ferraro).

BLACK VINE WEEVIL (Brachyrhinus sulcatus) - RHODE ISLAND - Apparently less conspicuous in nurseries than in previous years. (Veilleux). OHIO - Adults emerging and feeding on yews at Bolling Green, Wood County; all flightless females. (Jones).

WEEVILS (Brachyrhinus spp.) - NEVADA - Adult damage to lilac and privet leaves increasing in Reno-Sparks area, Washoe County. (Coop. Rpt.).

ROSE CHAFER (Macrodactylus multispinosus) - NEW HAMPSHIRE - Adults locally abundant. (Sutherland). RHODE ISLAND - Population decling statewide. (Veilleux, Mathewson).

A MAY BEETLE (Phyllophaga koehleriana) - OKLAHOMA - Large numbers present in Cimarron County; causing considerable damage to native cedars and other evergreens. Reported as emerging in CEIR 15(27):733. (Okla. Coop. Sur.).

A BLISTER BEETLE (Pomphopoea aenea) - PENNSYLVANIA - Numerous in flower gardens in Potter County June 24. (Adams).

COCCIDS - NEW HAMPSHIRE - Lecanium fletcheri (Fletcher scale) crawlers active in Exeter, Rockingham County. (Mason). RHODE ISLAND - L. fletcheri eggs hatched; crawlers moving out in Pawtucket and Johnston, Providence County; hatch just beginning in Newport area, Newport County. (Veilleux). MARYLAND - Chrysomphalus obscurus (obscure scale) infesting pin oak at localities in Anne Arundel and Montgomery Counties. (U. Md., Ent. Dept.). ARIZONA - Saissetia oleae (black scale) light to heavy on oleander nursery stock in Tucson, Pima County. (Ariz. Coop. Sur.). CALIFORNIA - Aspidiotus juglansregiae (walnut scale) heavy on ash trees in Santa Paula, Ventura County. Lepidosaphes machili medium on cymbidums in nursery in San Diego, San Diego County. (Cal. Coop. Rpt.).

SPIREA APHID (Aphis spiraecola) - UTAH - Numerous in Provo, Salt Lake City, Brigham City and Logan areas in northern part of State. (Knowlton, June 28).

POPLAR PETIOLE GALL APHID (Pemphigus populitransversus) - ALABAMA - Galls extremely numerous on stems of isolated poplars in Mobile, Lowndes and other counties. (Seibels et al.)

A PSYLLID (Psylla uncatoides) - CALIFORNIA - Locally severe on acacia trees in San Francisco, San Francisco County. (Cal. Coop. Rpt.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - CALIFORNIA - Adults medium on English laurel in Paradise, Butte County. (Cal. Coop. Rpt.).

ROSE LEAFHOPPER (Edwardsiana rosae) - UTAH - Discoloring rose foliage at Hyde Park, Cache County. (Knowlton, June 29).

TWO-SPOTTED TREEHOPPER (Euchenopa binotata) - NEW HAMPSHIRE - Adults and late-stage nymphs common on bittersweet at Durham, Strafford County. (Sutherland).

FLOWER THRIPS (Frankliniella tritici) - RHODE ISLAND - Heavy on rose in Westerly and Peace Dale, Washington County; causing discoloration and balling of flowers. (Hindle, Mathewson).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - DELAWARE - Common on euonymus in area of New Castle County. (Connell).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - VERMONT - Annoying in all areas. (MacCollom, June 28). CONNECTICUT - Most irritating pest during past week. (Savos). ALABAMA - Mosquito populations increased considerably throughout State; annoying during afternoon and evening hours. Egg laying and larvae present over widespread areas in artificial containers holding water from rains of past 15-20 days throughout State. (Barwood et al.). FLORIDA - Biting activity in Gainesville area, Alachua County, indicates annoyance varies considerably. Heavy biting activity reported in one area of northeastern section, but 3 blocks distant, activity reported as very light. Aedes infirmatus and Psorophora confinnis dominant species in this area. In southern section of Gainesville, Mansonia perturbans principal species near a lake. Biting reported as heavy on Sanibel Island, Lee County, but spraying reduced populations considerably. (Fla. Coop. Sur.). IOWA - A. vexans and A. trivittatus broods of 3 weeks ago slackening off due to lack of rain; however, new hatch should occur in northern and eastern areas about July 4. (Iowa Ins. Inf.). WISCONSIN - Severity of infestations variable; reports indicate some decrease in most instances. Most bothersome areas are near streams, in lowlands and with night pasturing of cattle. (Wis. Ins. Sur.). MINNESOTA - Collections in 16 light traps totaled 9,413 females, of which 4,316 were A. vexans, 221 A. cinereus, 166 A. abserratus, 2,700 Culiseta inornata, 1,233 Culex tarsalis. Total of 506 females taken in 36 15-minute evening bite collections: 245 A. vexans, 79 A. cinereus, 38 A. excrucians, 30 A. sticticus, 21 C. tarsalis. In 2,116 5-minute daytime bite collections, 842 A. vexans were collected; 351 A. cinereus, 226 A. sticticus, 166 A. stimulans, 114 A. excrucians, 111 A. fitchii and 7 Culex tarsalis were taken. Rains of 1.5-3.5 inches fell the evening of July 1 in northern portions of Hennepin, Anoka, Ramsey and Washington Counties; will undoubtedly result in another heavy brood of mosquitoes. (Minn. Ins. Rpt.). NEBRASKA - A. trivittatus common in eastern river bottom areas; A. dorsalis populations high west of North Platte and in Sioux County; A. vexans causing severe annoyance in Lancaster County. (Rapp). COLORADO - Numbers increasing and causing considerable annoyance in Fort Collins, Larimer County. (Simpson). UTAH - Annoyance increased in many areas due to standing water from rains; control problems increased. (Knowlton, June 29).

HORN FLY (Haematobia irritans) - WYOMING - Increasing on cattle in Goshen County area; ranged 75-90 per animal in some areas. (Marks). OKLAHOMA - Ranged 100-500 per head on cattle in Pawnee, Noble, Kay and Osage Counties; averaged 600 per head on cows in Pushmataha County. Reported heavy on cattle in Cotton County and moderate in Stephens County. (Okla. Coop. Sur.). MISSOURI - Ranged 400-1,000 per animal on cattle in St. Francois County. (Houser). IOWA - Numbers increasing slowly; annoying cattle in 59 of 69 herds checked from Ames to Cedar Rapides June 25; ranged 25-50 per animal. (Iowa Ins. Inf.). ILLINOIS - Counts varied 10-300 (average 78) per animal in northwest district. (Ill. Ins. Rpt.). MARYLAND - Ranged 0-25 per head on dairy cattle checked in Frederick County. (U. Md., Ent. Dept.). VERMONT - Ranged 75-100 per animal in Burlington area. (MacCollom, June 28).

STABLE FLY (Stomoxys calcitrans) - MARYLAND - Ranged 0-5 per head on dairy cattle checked in Frederick County. (U. Md., Ent. Dept.). ILLINOIS - Varied 0-5 (averaged 1.48) per animal in northwest district. (Ill. Ins. Rpt.). IOWA - Annoying feed-lot cattle; ranged 2-4 per leg June 25. (Iowa Ins. Inf.). MISSOURI - Ranged 5-25 per animal on cattle in Newton County June 22. (Houser). OKLAHOMA - Averaged 10 per head on cows in Pushmataha County. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - MISSOURI - Larva collected at French Village, St. Francois County, July 1. This is a new county record. (Houser). ILLINOIS - Populations low but increasing; ranged 0-12 (average 2.75) per face in northwest district. (Ill. Ins. Rpt.). OHIO - Population increasing in vicinity of Wooster, Wayne County; averaged 11.9 and 17.1 per face in 2 herds. Counts in these 2 herds ranged 4-23 and 4-35, respectively. Flies also becoming numerous on shoulders and backs. (Miller). MARYLAND - Ranged 0-14 per head on dairy cattle checked in Frederick County. (U. Md., Ent. Dept.). VERMONT - Ranged 30-35 per animal in Rutland County. (MacCollom, June 28).

HOUSE FLY (Musca domestica) - VERMONT - Populations exceptionally high and annoying in suburban areas of Burlington. (MacCollom, June 28). UTAH - Increasingly numerous in Washington County communities. (Knowlton, June 28).

BLACK FLIES - VERMONT - Extremely heavy in mountainous area; biting severely on Mansfield Mountain, Lamoille County, June 27. (MacCollom). WISCONSIN - Particularly troublesome in southern Wisconsin River area. (Wis. Ins. Sur.).

TABANIDS - WYOMING - Chrysops spp. annoying man and animals in Goshen County. (Marks). OKLAHOMA - Tabanus spp. averaged 3 per head on cows in Pushmataha County; reported moderate on cows and horses in Kay and Beaver Counties. (Okla. Coop. Sur.). WISCONSIN - Horse flies and deer flies becoming more noticeable in few southern counties. (Wis. Ins. Sur.). ILLINOIS - Horse flies varied 0-1 per animal in northwest district. (Ill. Ins. Rpt.).

CATTLE GRUBS (Hypoderma spp.) - WASHINGTON - Unusual numbers of adults causing serious annoyance to beef cattle in Whitman County. (Johansen, June 28). WISCONSIN - Adults of H. lineatum (common cattle grub) annoying some cattle herds in Grant County. (Wis. Ins. Sur.).

A BLOODSUCKING CONENOSE (Triatoma protracta woodi) - CALIFORNIA - Infested residence in Twenty-nine Palms, Riverside County. (Cal. Coop. Rpt.).

TICKS - WISCONSIN - High populations persist in some areas; above normal populations reported in Clark and Waupaca Counties and in northwestern counties. (Wis. Ins. Sur.). IOWA - Numerous complaints received concerning annoyance; ticks apparently more numerous than in several years. (Iowa Ins. Inf., June 28). NEBRASKA - Dermacentor variabilis (American dog tick) population high throughout Republican River Valley. (Rapp). OKLAHOMA - Amblyomma americanum (lone star tick) averaged 30 adults and 1,000 larvae per head on cows checked in Pushmataha County. Reported moderate on cattle and annoying to humans in Mayes County. (Okla. Coop. Sur.).

CHIGGER MITES (Eutrombicula spp.) - OKLAHOMA - Moderate to heavy in lawns and pastures in Marshall and Mayes Counties. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Increasingly troublesome in portions of Salt Lake, Weber and Davis Counties. Annoying about homes in Manti-Ephraim and other areas in Sanpete County. Also troublesome about church at Logan, Cache County. (Knowlton, Purnell). Annoying about homes in Beaver and other locations in Beaver County and about camp grounds in Logan Canyon, Cache County. (Beslin, Knowlton). RHODE ISLAND - Continues annoying over State. (Mathewson, King, Veilleux).

LITTLE BLACK ANT (Monomorium minimum) - OKLAHOMA - Probably this species, entering several homes in Payne and Noble Counties. (Okla. Coop. Sur.).

SUBTERRANEAN TERMITES - UTAH - Damaging home at Logan, Cache County. (Knowlton). CALIFORNIA - Reticulitermes hesperus (western subterranean termite) medium in structural beams in fair ground buildings at Lodi, San Joaquin County. (Cal. Coop. Rpt.).

SOUTHERN LYCTUS BEETLE (Lyctus planicollis) - CALIFORNIA - Infesting ash cabinets in homes in Brea, Orange County. (Cal. Coop. Rpt.).

A NAUTICAL BORER (Xylotrechus nauticus) - CALIFORNIA - Medium in firewood in residence in Hollister, San Benito County, and heavy in residence in Livermore, Alameda County. (Cal. Coop. Rpt.).

STORED-PRODUCT INSECTS

MEDITERRANEAN FLOUR MOTH (Anagasta kuehniella) - FLORIDA - All stages general and causing moderate damage to stored corn at West Melbourne, Brevard County, June 29. (Levan, Holley).

BAMBOO POWDER-POST BEETLE (Dinoderus minutus) - OREGON - Infested bamboo used as basket material in Portland area, Multnomah County. Complaints numerous from residents who purchased bamboo from local import houses. (Every).

BENEFICIAL INSECTS

LADY BEETLES - WYOMING - Adults and larvae ranged 40-65 per 100 sweeps in alfalfa in Goshen and Laramie Counties. (Marks). ARIZONA - Hippodamia spp. heavy in most crops in Yuma County. (Ariz. Coop. Sur.). MISSOURI - H. convergens (convergent lady beetle) and Coleomegilla maculata fuscilabris adults range 40-50 per 100 plants in corn and grain sorghum where Rhopalosiphum maidis (corn leaf aphid) present June 22-24. (Houser).

MELYRID BEETLES (Collops spp.) - ARIZONA - Populations heavy in cotton and alfalfa in Yuma County. (Ariz. Coop. Sur.).

GREEN LACEWINGS (Chrysopa spp.) - ARIZONA - Averaged 90 per 100 sweeps in cotton in Yuma County. (Ariz. Coop. Sur.). WYOMING - Adults and larvae ranged 60-85 per 100 sweeps in alfalfa in Goshen and Laramie Counties. (Marks).

DAMSEL BUGS (Nabis spp.) - ARIZONA - Counts of 180 per 100 sweeps found in alfalfa in Yuma County. (Ariz. Coop. Sur.).

A CINNABAR MOTH (Tyria jacobaeae) - WASHINGTON - Larvae light on tansy ragwort in Amboy, Clark County, as result of larval relsease in August 1964. (Shanks, June 28).

ICHNEUMONS - MISSOURI - Biolysia tristis, parasite of Hypera punctata (clover leaf weevil), larvae collected for first time in State; collections made in Boone, Reynolds, Shannon and Platte Counties on June 28. (Puttler). Adults of Bathyplectes curculionis, a parasite of Hypera postica (alfalfa weevil), swept from alfalfa in Reynolds County May 17. This is also a new State record. (Houser, Keaster). Diapausing and nondiapausing cocoons and adults of B. curculionis collected in alfalfa in Shannon County May 26. This is a new county record. (Puttler).

A LEAFCUTTING BEE (Megachile rotundata) - NEVADA - Active in Lovelock, Pershing County, for past 2 weeks. (Ferraro). Light emergence, mostly males, noted in Orovada, Humboldt County. (Lundahl).

MISCELLANEOUS INSECTS

SQUASH BUG (Anasa tristis) - ARIZONA - Heavy on desert ground near Desert Wells. (Ariz. Coop. Sur.).

CICADAS - NEVADA - Adults heavy in Lemon Valley, Washoe County. (Gardella).

AN EARTHWORM MITE (Fuscuropoda agitans) - CALIFORNIA - Heavy on earthworm farm in Lower Lake, Lake County. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 15(10):DETECTION and page 147 - A DESERT GRASSHOPPER (Tanaocerus rugosus)- This was a misidentification, and the species collected in the Winterhaven area of California was T. koebelei. T. rugosus does not yet occur in the United States.

CEIR 15(23):586 - GREEN LACEWINGS - ARKANSAS should read NEBRASKA.

CEIR 15(26):DETECTION - SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) as a first State record for Oregon should read Washington.

CEIR 15(26):680 - SIX-SPOTTED LEAFHOPPER (Marcrosteles fascifrons) should read Macrosteles fascifrons.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (larger cutworm)	Estigmene acrea (salt-marsh caterpillar)	Feronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiticalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Scoliopteryx aorbita (beet armyworm)	Scotogramma trifolii (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
ARKANSAS																								
Hope 6/24-30				0						0	11					5				11				
Kelso 6/24-30				1						0	0					1				0				
Fayetteville 6/24-30				160						0	45					0				0				
Morrilton 6/24-30				12						1	3					0				42				
FLORIDA																								
Gainesville 6/28			BL								1						6				2			
ILLINOIS (County)																								
Champaign 6/25-7/1	53-88	2.09		58							2				142	18				618			2	
MARYLAND																		spp.						
Centreville 6/22-28				99							3			24	29			4		1048				
MICHIGAN (Counties)																								
Berrien 6/22-28			BL	41										30	19	2				132				
Branch 6/22-28			BL	7										17	4	0				27				
Kalamazoo 6/22-28			BL	9										11	5	1				62				
Jackson 6/22-28			2 BL	10										26	7	0				53				
Livingston 6/22-28			BL	11										28	7	0				53				
Ionia 6/22-28			BL	9										12	3	0				24				
Saginaw 6/22-28			BL	7										17	3	0				32				
Sanilac 6/22-28			BL	3										16	1	0				14				
Bay 6/22-28			BL	6										13	5	0				26				
Newaygo 6/22-28			BL	12										11	7	1				27				
Ogemaw 6/22-28			BL	4										0	2	0				18				
Menominee 6/22-28			BL	5										0	0	0				23				
Chippewa 6/22-28			BL	8										0	5	0				38				
Iron 6/22-28			BL	3										0	0	0				11				
MINNESOTA																								
Crookston 6/19-25				2										2						12				
Fergus Falls 6/19-25				2										1						28				
Fergus Falls 6/26-7/2				0										1	3					2				
Rochester 6/19-25				0										0						2				
Shakopee 6/19-25				0										0						9				
Shakopee 6/26-7/2				2										0	1					8				
Worthington 6/19-25				53										20						100				
Worthington 6/26-7/2				19										17	0					85				
MISSISSIPPI																								
Stoneville 6/25-7/1	67-95	0.37	2 BL	7			9		25	2	22				39	11	1	13		39				
Rolling Fork 6/25-7/1	67-95	0.55	BL	4			1		8	1	2					20	2	41		3			3	
Tunica 6/25-7/1	66-95	0.95	BL	12			10		31	1	17				5	60		21		9		1	6	
MISSOURI																								
Portageville 6/26-7/2				2							33			369	12	74				9				

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Caenocorsa fumosella (coolline moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (hoary head sayworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege comptalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera ornitha (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
NEBRASKA																								
Bushnell 6/15-21				5		208									50				196					
Kearney 6/16-20				7		8								65	7				9					
North Platte 6/18-24				65		1392					2			21	189		1		746					
Ogallala 6/17-21				3		152						spp.			32				191					
Scotts Bluff Expt.Sta. 6/5-11				1		9						9			19				55					
Scotts Bluff Expt.Sta. 6/12-18				3		34						1		9					136					
NEW JERSEY																								
Aura 6/28, 7/2											2					2	1		163					
Edinburg 6/28, 7/2											1			2		1	1		775					
Masonville 6/28, 7/2											6					3	1	1	361					
Seabrook 6/28, 7/2																3			375					
Evesboro 6/24, 29											13			0										
Hardingville 6/28,7/2					7																			
Hurffville 6/28, 7/2					7																			
NORTH DAKOTA																								
Fargo 6/18-25				2															9					
Fargo 6/25-7/2																			6					
Bismarck 6/18-25				8									34						104					
Bowman 6/18-25				9									208						45					
Bottineau 6/18-25				12									88						109					
Bottineau 6/25-7/2				7									109						44					
Sheyenne 6/18-25				1															4					
Sheyenne 6/25-7/2				3															3					
Williston 6/18-25													1						14					
Williston 6/25-7/2																			16					
OHIO (Counties)																								
Licking 6/24-7/1			BL	2															7					
Wayne 6/24-30			BL	18				1											5					
Franklin 6/26-28			BL	11				45								6			95					
SOUTH CAROLINA																								
Oconee 6/19-25			BL	3							3					22			5					
Oconee 6/26-7/2			BL								1					37		2	1					
SOUTH DAKOTA																								
Brookings 6/26-28				40										23					367					
TENNESSEE (Counties)																								
Knox 6/22-28				4											40	36		3	66		4			
Johnson 6/22-28				40											88	4			164					

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Caenocampa pronubila (golden sod)	Chorizagrotis auxiliaris (gray cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Procognoce sunia (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
TEXAS																								
Waco 6/26-7/2				26			4		51	2	73			6		36	36			18			46	
WISCONSIN																								
Mazomanie 6/21-27			BL								0				20	0				9				
Madison 6/23-29	46-92		BL	4	14						0				10	4				102				
Middleton 6/23-29			BL	36	1						0				3	3				22				
De Forest 6/22-28			BL	8							0				12	1				17				
Arlington 6/22-28			BL	2							0				1					53				
Hancock 6/22-28			BL								0				6	0				7				
Oakfield 6/25-28			BL	1							0				3					19				
Clyman 6/22-28			BL								0				1					14				
Wayne 6/22-28			BL								0				11					22				
Theresa 6/22-28			BL								0				14					49				
Nenno 6/22-28			BL								0				3					6				
Ripon 6/22-28			BL								10				188					146				
Rosendale 6/22-28			BL								11				261					201				
WYOMING																								
Cheyenne 6/14-21				7		357										68				211				
Laramie 6/6-12				1		3										1				1				
Laramie 6/13-18						25										5				26				

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

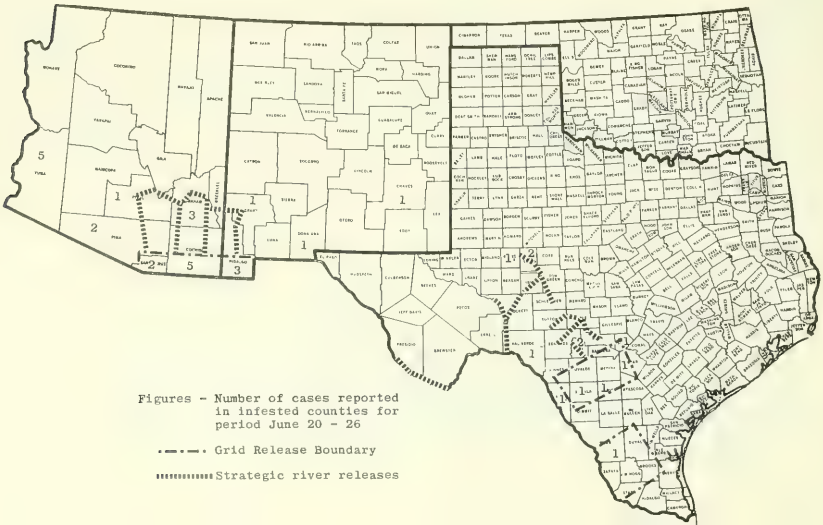
** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period June 27 - July 3, there was a decided drop in numbers of screw-worm cases in the Southwest Eradication Area. A total of 36 cases was reported as follows: TEXAS - one case each in Kendall, Maverick, Frio, Webb, Zavala, Glasscock, Val Verde and Bexar Counties, 2 cases each in Sterling and Real Counties; ARIZONA - Pinal 1, Yuma 5, Cochise 5, Graham 3, Pima 2, Santa Cruz 2; NEW MEXICO - Grant 1, Hidalgo 3, Dona Ana 1, Chaves 1. The Republic of Mexico reported 126 cases: Tamaulipas 4, Coahuila 6, Nuevo Leon 2, Chihuahua 10, Sonora 43, Territory Baja California Sur 24, Baja California 3, Duragno 23, Veracruz 3, San Luis Potosi 8. Sterile screw-worm flies released: Texas 26,066,250; New Mexico 1,840,000, Arizona 9,028,000, the Republic of Mexico 66,090,600

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding weeks in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	126	1,887	136	4,037	92.64	46.74
1964	8	95	87	3,874	9.19	2.45
1965	36	314	133	3,097	27.06	10.13
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	52	819	34	1,021	152.94	80.21
1965	121	2,190	61	1,214	198.36	180.39
Table 2A. Mexican portion of Barrier Zone only.						
1964	47	754	15	385	313.33	195.84
1965	92	1,936	36	646	255.55	299.69

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Dis. Erad. Div.).



HAWAIIAN INSECT NOTES

The following notes on Hawaii insect conditions were presented at the meeting of the Hawaiian Entomological Society held in June 1965.

An APHID (Amphorophora vaccinii Mason) was observed as heavy on a clump of native Vaccinium sp. at an elevation of 10,000 feet near the University of Hawaii observatory on Haleakala, Maui, on May 25. This is a new record for Maui County. A. vaccinii has previously been recorded only from the Mauna Loa Truck Trail at 6,500 feet elevation on the island of Hawaii by C. J. Davis in 1946. (J. W. Beardsley).

A EUPELMID WASP (Eupelmus cushmani (Crawford)) parasitized many of the eggs in an egg case of Tenodera angustipennis Sauss. (a mantid) which had been collected at Hanamaulu, Kauai, on June 3. Some of the wasps had died in situ before they could emerge from the egg case. The only other previous record of this host-parasite relationship is that by P. W. Weber. (F. A. Bianchi).

A single live specimen of GIANT AFRICAN SNAIL (Achatina fulica Bowdich), about 3 inches in length, was collected in Waiakea Kai, Hawaii, near the Naniloa Hotel on June 10. No other specimens were found during subsequent surveys. (H. Nakao, E. Yoshioka).

A KLAMATH-WEED BEETLE (Chrysolina quadrigemina (Suffrian)) - Two shipments totaling approximately 3,000 specimens, probably C. quadrigemina, were released June 8 on Mt. Hualalai, Hawaii, for control of Klamath-weed. A CECIDOMYIID MIDGE (Zeuxidiplosis giardi Keiffer), released in February 1965, was found established at release sites on Mt. Hualalai. (H. Nakao).

PACIFIC DAMPWOOD TERMITE (Zootermopsis angusticollis (Hagen)) - Six dealated adults were found February 26, 1965, among Douglas-fir lumber which had been shipped to Hilo from Honolulu; the lumber had originated from the Mainland. It is not known whether this termite has become established in the State. Determination was made by T. E. Snyder of the U.S. National Museum who stated that Hawaii was the twenty-first State into which Z. angusticollis had been transported, and recommended immediate fumigation whenever the species is found. This termite attacks poles, pilings, bridge timbers and other structures near water. (E. S. Shiroma).

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Minnesota (State or District) DURING 1964 (Year)

ATTACKING Sweet corn (Commodity or Crop)

A. Pest or pest complex: European corn borer, corn earworm, cutworms, corn rootworms

B. Number of acres [a] produced (From CRS) No. 83,100

C. Average yield per acre [a] (From CRS) Units/ 4.04 tons

D. Price[b] per unit (ton)[c] (From CRS) $/ 18.60

E. Acres [a] needing control No. 70,000

F. Acres [a] treated No. 65,826

G. Reduction due to not treating where needed:

H. Loss in yield, percent % Trace

I. Loss in yield, units per ---- [a], C x H Units/ ----

J. Loss in yield, $ per ---- [a], D x I $/ ----

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all ---- [a], (E-F) x I Units ----

M. Control cost, $ per acre [a], $/ 3.50

N. Control cost for all acres [a], F x M $ 230,391

O. Yield loss for all ---- [a], (E-F) x J $ ----

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 230,391

R. Percent loss due to each insect in the complex: European corn borer 80, corn earworm 10, cutworms 7, corn rootworms 3

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Robert Flaskerd

Date March 19, 1965

ATTACKING Corn (Commodity or Crop)

A. Pest or pest complex: Corn rootworms, wireworms, seed-corn beetle, cutworms, grasshoppers, armyworm, corn earworm*

B. Number of acres [a] produced (From CRS) No. 5,803,000

C. Average yield per acre [a] (From CRS) Units/ 59 bu.

D. Price[b] per unit (bu.)[c] (From CRS) $/ 1.08

E. Acres [a] needing control No. 3,000,000

F. Acres [a] treated No. 2,000,000

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 8

I. Loss in yield, units per acre [a], C x H Units/ 4.72 bu.

J. Loss in yield, $ per acre [a], D x I $/ 5.10

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all acres [a], (E-F) x I Units 4,720,000 bu.

M. Control cost, $ per acre [a], $/ 2.30

N. Control cost for all acres [a], F x M $ 4,600,000

O. Yield loss for all acres [a], (E-F) x J $ 5,100,000

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 9,700,000

R. Percent loss due to each insect in the complex: Corn rootworms 59, wireworms 22, cutworms 11, seed-corn beetle 5, armyworm and corn earworm 2

Comment: * Does not include European corn borer

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Robert Flaskerd

Date March 19, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Minnesota (State or District) DURING 1964 (Year)

ATTACKING Small grain (Commodity or Crop)

A. Pest or pest complex: Grasshoppers, wheat stem maggot, aphids, armyworm, crickets, wireworms

B. Number of acres[a] produced (From CRS) No. 4,743,000

C. Average yield per ---- [a] (From CRS) Units/ ----

D. Price[b] per unit (----)[c] (From CRS) $/ ----

E. Acres[a] needing control No. 22,080

F. Acres[a] treated No. 22,080

G. Reduction due to not treating where needed:

H. Loss in yield, percent % ----

I. Loss in yield, units per ---- [a], C x H Units/ ----

J. Loss in yield, $ per ---- [a], D x I $/ ----

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all ---- [a], (E-F) x I Units ----

M. Control cost, $ per acre [a], $/ 2.00

N. Control cost for all acres [a], F x M $ 44,160

O. Yield loss for all acres [a], (E-F) x J $ 424,200*

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 468,360

R. Percent loss due to each insect in the complex: Grasshoppers 90, armyworm 5, wireworms 3; aphids, crickets and wheat stem maggot 2

Comment: * Yield loss for all acres - figure supplied by County Agents' questionnaires for total small grain losses

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Robert Flaskerd

Date March 19, 1965

ATTACKING Forage (legume)* (Commodity or Crop)

A. Pest or pest complex: Grasshoppers, pea aphid, cutworms

B. Number of acres[a] produced (From CRS) No. 3,489,000

C. Average yield per acre [a] (From CRS) Units/ 1.94 ton

D. Price[b] per unit (ton)[c] (From CRS) $/ 20.50

E. Acres[a] needing control No. 153,400

F. Acres[a] treated No. 53,940

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 10

I. Loss in yield, units per acre [a], C x H Units/ 0.19 ton

J. Loss in yield, $ per acre [a], D x I $/ 3.90

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all acres [a], (E-F) x I Units 18,897.40

M. Control cost, $ per acre [a], $/ 2.00

N. Control cost for all acres [a], F x M $ 107,880

O. Yield loss for all acres [a], (E-F) x J $ 387,894

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 495,774

R. Percent loss due to each insect in the complex: Grasshoppers 98, pea aphid and cutworms 2

Comment: * Primarily alfalfa, some grasses and red clover

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Robert Flaskerd

Date March 19, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Minnesota (State or District) DURING 1964 (Year)

ATTACKING Timothy (seed) (Commodity or Crop)

A. Pest or pest complex: Armyworm

B. Number of acres [a] produced (From CRS) No. 45,000

C. Average yield per acre [a] (From CRS) Units/ 0.145 cwt.

D. Price[b] per unit (cwt.)[c] (From CRS) $/ 16.00

E. Acres [a] needing control No. 15,000

F. Acres [a] treated No. 6,000

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 10

I. Loss in yield, units per acre [a], C x H Units/ 0.145 cwt.

J. Loss in yield, $ per acre [a], D x I $/ 2.32

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all acres [a], (E-F) x I Units 1,305 cwt.

M. Control cost, $ per acre [a], $/ 1.00

N. Control cost for all acres [a], F x M $ 6,000

O. Yield loss for all acres [a], (E-F) x J $ 20,880

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 26,880

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Robert Flaskerd

Date March 19, 1965

ATTACKING Apples (commercial) (Commodity or Crop)

A. Pest or pest complex: Apple maggot, codling moth, red-banded leaf roller, mites, curculios

B. Number of acres [a] produced (From CRS) No. 2,000

C. Average yield per acre [a] (From CRS) Units/ 215 bu.

D. Price[b] per unit (bu.)[c] (From CRS) $/ 2.65

E. Acres [a] needing control No. 2,000

F. Acres [a] treated No. 2,000

G. Reduction due to not treating where needed:

H. Loss in yield, percent % ----

I. Loss in yield, units per ---- [a], C x H Units/ ----

J. Loss in yield, $ per ---- [a], D x I $/ ----

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all ---- [a], (E-F) x I Units ----

M. Control cost, $ per acres [a], $/ 150

N. Control cost for all acres [a], F x M $ 300,000

O. Yield loss for all ---- [a], (E-F) x J $ ----

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 300,000

R. Percent loss due to each insect in the complex: Apple maggot 40, codling moth 15, mites 15, curculios 15, red-banded leaf roller 15

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Robert Flaskerd

Date March 19, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
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Hyattsville, Maryland 20781

Volume 15 July 16, 1965 Number 29

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

EUROPEAN CORN BORER adults emerging in southern Illinois for start of second generation; larval infestations heavy in Iowa and Ohio, and moderate in central and northeast Nebraska. (pp. 779, 780). CORN ROOTWORM (Diabrotica spp.) damage reported in Missouri; lodging reported in Minnesota. (pp. 780, 781). CORN LEAF APHID heavy on corn in Indiana, colonies forming in whorls of corn in Wisconsin and damaging irrigated barley in Utah. (p. 781). CHINCH BUG continues problem on corn in Illinois, Indiana and Ohio. (p. 782). RED-LEGGED GRASSHOPPER egg hatch continued in Minnesota with early control recommended for threatening infestations; hatch not yet complete in Wisconsin. GRASSHOPPERS severely damaging some alfalfa in New Mexico and damaging in areas of Utah; counts high in areas of Oklahoma. (pp. 782, 783).

ALFALFA WEEVIL seriously retarding growth of second-crop alfalfa in Wyoming and Utah; continues to damage first-crop alfalfa in South Dakota. (p. 784). JAPANESE BEETLE reported in alfalfa in Indiana and Ohio. (p. 784). PEA APHID increasing in alfalfa in areas of Colorado, Wisconsin and Michigan; counts high in areas of Nevada and Minnesota. (pp. 785, 786). SPOTTED ALFALFA APHID populations doubled in Wisconsin. PLANT BUGS again becoming of some concern on legumes. (p. 786). POTATO LEAFHOPPER building up on legumes in Vermont and Wisconsin, with yellowing of alfalfa noted in Wisconsin and Maryland. THREE-CORNERED ALFALFA HOPPER increasing on alfalfa in Arizona. (p. 787).

EUROPEAN RED MITE continues problem in some orchards in the East and Midwest. PEAR PSYLLA second-generation nymphs causing severe damage in Washington and rather large numbers of PEAR-SLUG appearing in young pear orchards in Willamette Valley of Oregon. (p. 788). APPLE MAGGOT adult emergence heavy in eastern New York; first activity of season noted in Michigan and Wisconsin, with above normal flights anticipated in Wisconsin. (pp. 788, 789). TEXAS CITRUS MITE population on Florida citrus highest on record since first discovered on this host in State; BLACK SCALE and YELLOW SCALE populations at highest levels in 15 years of records. (p. 789).

GOLDEN NEMATODE (Heterodera rostochiensis) found in commercial potatoes in Saanich Peninsula of Vancouver Island, Canada. TOMATO PINWORM causing considerable damage to tomato in Arizona. (p. 791). POTATO LEAFHOPPER heavy on beans in Maryland and Wisconsin. THRIPS heavy on several crops. (p. 792). TOBACCO FLEA BEETLE causing conspicuous injury to tobacco and GREEN PEACH APHID expected to be general problem on this crop in southern Maryland. (p. 793). BOLLWORMS generally light in cotton areas. (p. 794).

MOSQUITOES annoying in many areas, especially where rains have been heavy. (pp. 800, 801). HORN FLY troublesome in some Southern States. STABLE FLY increased in Iowa and high in Kansas. HORSE FLIES and DEER FLIES annoying to man and livestock. (p. 801).

DETECTION

New State records reported were BLACK PINE LEAF SCALE (Aspidiotus californicus) in North Dakota (p. 797) and AN ANT (Novomessor cockerelli) in California (p. 803). New county records included: CEREAL LEAF BEETLE (Oulema melanopa) in Tippecanoe County, Indiana, (p. 781); ALFALFA WEEVIL (Hypera postica) in Morgan County, Indiana, (p. 784); a CLOVER WEEVIL (Tychius stephensi) in Clark County, Illinois, (p. 784).

(Continued on page 778).

CORRECTIONS

See page 803.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 807).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Potatoes and Sugar Beets in Minnesota in 1964. (p. 808).

Reports in this issue are for the week ending July 9 unless otherwise indicated.

WEATHER OF THE WEEK ENDING JULY 12

HIGHLIGHTS: (1) Drought relieved in Northeast. (2) Continued hot and humid, Southeast. (3) Warmest weather of season, portions of West.

TEMPERATURE: The immediate west coastal areas averaged near normal again this week with daily maximums generally in the 60's. The intermountain region warmed some 4° to 8° compared to the previous week bringing weekly averages to near normal. Tuesday was the warmest day in that area with highs in the 90's at most stations and up to 101° at Pendleton, Oregon. Over the Rocky Mountains and western Great Plains, temperatures were generally near normal but slightly higher than for the previous week. Temperatures there were in the 90's every day in the southern portion and reached into the 90's as far north as South Dakota on Sunday. Average temperatures over the eastern half of the Nation were generally near or slightly below normal with little change from the previous week. Daily highs were generally in the 70's in the Northeast but reached into the 80's and 90's on Fridays. Frost occurred in northern Lower Michigan on the 6th and in parts of New England on the 7th. The warm and humid air mass characteristic of midsummer continued to blanket the Southeast with considerable sunshine except during frequent thundershower periods. Daily maximums were in the 80's and 90's on most afternoons.

PRECIPITATION: Rainfall was of little or no consequence over the western half of the Nation except for a few widely scattered thundershowers. Widespread showers were a frequent occurrence over the eastern half with many reports of 2 to 3 inches and some local amounts of 4 to 6 inches. A report from Union County, Illinois, indicates 7.25 inches in 12 hours and a local shower at Utica, New York, produced more than 6 inches. Most of New Jersey received the heaviest rains in more than a year with more than 2 inches in the south and in adjacent areas of Pennsylvania, Delaware, and Maryland. In other parts of the Northeast rainfall generally totalled less than 1 inch but was widespread and beneficial. (Summary supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - OHIO - Rather heavy infestations observed in 2 fields of corn in Brown and Clermont Counties; approximately 44 percent of plants infested in Brown County field and infestation 56 percent in Clermont County field. Prominent frass and leaf feeding indicated infestations. Corn well advanced in both instances with many tassels showing. Maximum of 4 larvae per plant noted in Clermont County field. Glischrochilus spp. and Carpophilus spp. (sap beetles) common on many infested plants; usually in close proximity to borers; however, beetles observed apparently feeding on corn plants with no O. nubilalis larvae. (Davidson, Moore, Rose). MICHIGAN - First-brood larval infestations in corn ranged 0-32 percent in 10 Ingham and Macomb County fields July 6; most larvae still in first stage. Blacklight trap collections indicate peak flight of spring-brood adults occurred third week of June. (Newman). INDIANA - Light to medium infestations found in southern areas on some corn 3.5-7 feet high. Infestation 100 percent in 2 fields in Harrison and Franklin Counties with 3-5 late-stage larvae per plant. Generally, populations light with infestations present in approximately 10-15 percent of fields checked. Corn under 3.5 feet high free of infestation in southern half of State. (Huber, White). ILLINOIS - Adults emerging in southern area for start of second generation. First-generation borers ranged 0-16 (average 2.4) per 100 plants in Pulaski-Alexander County area, and zero per 100 plants in Saline County. Percent development was third instar 5, fourth instar 5, fifth instar 45, pupae 30, empty cases 15 percent. (Ill. Ins. Rpt.). MISSOURI - In Putnam County, 50-90 percent of earlier corn found infested with 1-6 larvae per infested stalk July 6. (Peters). In Atchison County, development ranges second instar to pupae; heavy in early corn. No first-generation moths nor second-generation eggs observed. (Thomas). IOWA - Heavy in corn 50-60 inches high in Greene County; larvae in second stage but not yet bored into stalks. Controls applied July 2. Infestation ranged from 8 percent in 40-inch corn to 80 percent in 60-inch corn between Dunlap and Boone, with 3-9 borers per infested plant. Percent development: 42 first instar, 51 second instar, 7 third instar; none bored into stalks. Percent development in Decatur County: 25 second instar, 50 third instar, 25 fourth instar. Moth emergence 100 percent in Ankeny. In 32 Boone County fields, percent leaf feeding as follows: 54 on 71-inch corn, 3.75 on corn 25-35 inches tall, 9.9 on 35-45 inch high corn, and averaged 16.7 percent on corn 45 inches or higher. (Iowa Ins. Inf., July 7.).

WISCONSIN - No eggs observed as far north as Dodge County. Larvae in fourth stage in more advanced areas of State; mostly in third instar elsewhere. Few bored into stalks although most feeding continues in whorl area. Highest infestation noted was 3 percent in southeast areas (Wis. Ins. Sur.). MINNESOTA - Egg laying still occurring, but counts low. Number of infested plants per 100 averaged as follows by district: Southwest 5, southern counties in west central 10, central zero. In southwest, 93 percent of larvae in first stage, 7 percent second stage; in west central district, 85 percent in first, 12 percent in second and 3 percent in third stages. Although counts low, economic numbers present in some fields. Controls justified where 75 percent of plants show whorl feeding. (Minn. Ins. Rpt.). NORTH DAKOTA - Pupation and emergence in southeast as follows, by county: Cass 84 and 10, Richland 95 and 15, Sargent 95 and 15. Adults observed in these counties. (Gage, Dissell). SOUTH DAKOTA - Larvae damaged 10 percent of sweet corn in one of earliest fields in Milltown area, Hutchinson County; sweet corn in field 5 feet high. Larvae in second stage. Damage near tops of stalks resulted in loss of tassels. (Jones). NEBRASKA - Light to moderate in central and northeast districts. Infestation ranged 0-50 (averaged 20-30) percent in northeast; larvae in several stages; 30-40 percent present in stalks, 60-70 percent in whorls. Infestation ranged 33-45 (averaged 40) percent in Hall County. (Hill, Rhine). ALABAMA - Caused light to heavy damage to early sweet corn in gardens in Jackson, Cullman and other northern counties. First generation pupated; moth flights will occur soon. (White et al.). MARYLAND - First-generation infestations generally light to moderate on corn in all sections, except in more advanced corn where infestations range 23-96 percent. (U. Md., Ent. Dept.). DELAWARE - Many first-brood larvae pupated in early corn and potatoes. No adults taken in Sussex County blacklight trap. (Burbutis, Woodall).

NEW YORK - Larvae nearly full grown but very light in ears of sweet corn and second stage larvae from light hatch, presumably one-brood strain, in whorls of midseason corn in Hudson Valley. Very light in Niagara County. (N.Y. Wkly. Rpt., July 8).

CORN EARWORM (Heliothis zea) - ARIZONA - Infestations ranged medium to heavy in small patches of early sweet corn scattered in fields throughout Graham County; small to medium larvae ranged 10-14 per 25 ears checked. (Ariz. Coop. Sur.). UTAH - Few larvae noted in tassels of sweet corn in Davis-Weber County area. (Knowlton, Duncan). KANSAS - Reported in whorls of corn in northeast area. (Gates). INDIANA - First larvae of season found on corn in Rush County. (White). MICHIGAN - Additional adults taken in blacklight traps recently; one each in Berrien and Saginaw Counties. (See CEIR 15(28):743). (Martini, Emerick, Newman). MARYLAND - Larvae caused light whorl injury to more advanced corn in all sections. (U. Md., Ent. Dept.). DELAWARE - Infestations vary 5-10 percent in corn in Kent and New Castle Counties. No adults taken in blacklight traps in Sussex County. (Burbutis, Woodall). ALABAMA - Infesting corn generally throughout State; caused extremely heavy damage in 14-acre field in Mobile County. (Vickery et al.).

ARMYWORM (Pseudaletia unipuncta) - MICHIGAN - Light sampling of 3-5 late-stage larvae per 25 feet of row taken in 3 Macomb County small grain fields July 6; although adult blacklight trap catches trending upward, as result of earlier larval numbers, no more general field problems expected in 1965. (Newman). WISCONSIN - Few larvae present on small grains, but not yet a problem. (Wis. Ins. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - PENNSYLVANIA - Infestation approximately 3 percent on field corn in Potter County. (Adams). TEXAS - Observed on corn in Dickens County. (Sterling). KANSAS - Two found in whorls of 25 corn plants inspected in Finney County; little damage observed. (Brooks, Simpson).

STALK BORER (Papaipema nebris) - MINNESOTA - Damaged marginal rows of corn in southwest district; counts generally low, but variable from field to field. (Minn. Ins. Rpt.). NEBRASKA - Very common on corn in field margins in Lincoln County. (Pruess).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Heavy on corn and sorghum in Greene County. (Shurling, Coleman).

CORN ROOTWORMS (Diabrotica spp.) - IOWA - Populations generally low on corn in north central area July 1. In Worth County, 2 D. undecimpuncta howardi (southern corn rootworm) and 9 D. longicornis (northern corn rootworm) collected. In field in continuous corn for 8-10 years, 0-2 third-stage larvae and prepupae per plant observed. D. undecimpunctata howardi causing most damage in southern part of State. Numerous in first-year corn in Humeston, Wayne County. Diabrotica spp. averaged 20 larvae per plant with high of 70 in field near Marengo, Iowa County. D. undecimpunctata howardi infesting field of corn in Ringgold County where no soil insecticide used; first planting destroyed by cutworms, and replant corn being destroyed by Diabrotica spp.; 25 percent of plants lodged June 30. (Iowa Ins. Inf., July 7). MINNESOTA - Most larvae in first and second stages in southwest, south central and central district corn; occasional third instar found in some fields. Larvae found feeding on brace roots; no damage or browning evident but growth stopped or greatly retarded. Lodging apparent in some fields. (Minn. Ins. Rpt.). SOUTH DAKOTA - Second and third-stage larvae of D. virgifera (western corn rootworm) present in corn near Milltown, Hutchinson County; ranged 0-11 (average 5) per stalk in third-year corn and 1 per stalk in second-year corn in fields where insecticides have never been applied. None found in fields of first-year corn sampled. (Jones). First adult of D. virgifera of season collected July 7 at Yankton, Yankton County. (Kirk, Calkins). NEBRASKA - D. undecimpunctata howardi adults noted in northeast section. D. virgifera pupation underway; few adults observed in central and northeast sections. (Rhine). KANSAS - D. longicornis variable in corn; none found in Finney County (Brooks, Simpson); many last instars noted in Marshall County (Gates). MISSOURI - Root damage by D. undecimpunctata

howardi noted in corn in Putnam County July 6; up to 33 forms found on some plants. Newly emerged adults observed. Similar damage also reported in Adair and Scotland Counties. (Peters). Adults of D. undecimpunctata howardi, D. longicornis, and D. virgifera began emerging in Atchison County about July 5. Of forms still underground, approximately 50 percent larvae, 50 percent prepupae. (Thomas).

CORN FLEA BEETLE (Chaetocnema pulicaria) - MARYLAND - Populations at seasonal peak indicating new generation on corn in central sections. (U. Md., Ent. Dept.). DELAWARE - Common on corn in most areas. (Burbutis, Woodall).

WHEAT WIREWORM (Agriotes mancus) - NEW HAMPSHIRE - Larvae damaging corn in 15-acre field at Newmarket, Rockingham County, July 4. Overall stand reduction 10 percent; ranged 30-60 percent in low spots. (Sutherland).

CEREAL LEAF BEETLE (Oulema melanopa) - MICHIGAN - High percentage of summer adults entering inactive stage; however, some flight continues in Berrien County reserarch plots; most adults concentrated on succulent grasses and in late fields of oats. Large grasses, such as reed canary and brome, especially along roadways where mowing led to succulent regrowth, harbor sizeable adult populations. Eggs and larvae rare, pupae scarce in fields of oats where large larval populations present earlier. (Ruppel, Turner). INDIANA - Adult emergence about complete in wheat in St. Joseph and La Porte Counties; adult emergence increasing in oats but not yet at peak. (Wilson). Reported for first time in Tippecanoe County. (Gallun).

CORN LEAF APHID (Rhopalosiphum maidis) - INDIANA - Heavy on corn in localized areas in south central and southwest sections of State. Apterous forms range 30-320 (averag 45) per infested plant in fields checked. Approximately 10-15 percent of corn examined was infested. (Huber). OHIO - Infestations, probably this species, noted on tassels of field corn near Loveland, Clermont County; 6 plants out of 20 infested. Present in large numbers on individually infested plants. (Rose). MICHIGAN - No adults or nymphs taken on corn to July 9; most sampling made in Monroe and Lenawee Counties; samplings made in Ingham and Macomb Counties July 3-9 also negative. (Newman). WISCONSIN - Colonies forming in whorls of corn in scattered locations. Few colonies appearing on exposed leaves of whorl. (Wis. Ins. Sur.). SOUTH DAKOTA - Common on 50 percent of cornstalks in north central Hutchinson County; ranged 100-150 per stalk and located mostly in last whorl of leaves near top of plants. (Jones). NEBRASKA - Light on early planted corn and grain sorghum in northeast; green lacewings common in fields. (Rhine). KANSAS - Ranged 50-100 per corn plant in Riley County. Various species of lady beetles common in these fields; ranged 5-10 per plant. (Simpson). UTAH - Damaging irrigated barley in Levan-Nephi area, Juab County; however, less severe than in 1964. (Esplin, Knowlton). IDAHO - Infestation general on grass and field of small hybrid sorghum in western Canyon County; 1-3 alates per colony. Predators few. (Waters, July 2).

ENGLISH GRAIN APHID (Macrosiphum avenae) - MINNESOTA - Counts per 100 sweeps in small grains, by district, averaged as follows: Southwest 121, west central 129, central 80, northwest 100. (Minn. Ins. Rpt.). NORTH DAKOTA - Dominant species of grain aphids found; trace numbers noted in southwest; ranged 11-50 per linear foot in barley near Rugby, Pierce County. (Cushing).

CORN ROOT APHID (Anuraphis maidiradicis) - NEBRASKA - Averaged 30 per root system in field of corn in Dodge County. (Rhine). SOUTH DAKOTA - Low, 25 per stalk, in Hutchinson County where corn followed corn. (Jones). IOWA - Caused scattered, severe damage to corn in Franklin and Wright Counties. Ranged 50-100 per root on more heavily infested plants. These plants half as tall as lightly infested plants in vicinity. (Iowa Ins. Inf., July 7). VIRGINIA - Infested roots of corn in field in Appomattox County. (Isakson, Smith, June 29).

GREENBUG (Schizaphis graminum) - MINNESOTA - Counts per 100 sweeps in small grains, by district, averaged as follows: Southwest 34, west central 14, central and northwest trace. (Minn. Ins. Sur.).

CHINCH BUG (Blissus leucopterus) - ILLINOIS - Continues to migrate from grain into corn and causing some damage. (Ill. Ins. Rpt.). INDIANA - Heavy numbers in east central and northwest sections continue to cause serious damage to corn. (Huber). OHIO - Continued active in Van Wert, Hardin, Logan, Fulton and Fayette Counties. (Blair et al.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - MINNESOTA - Numbers remain high in southwest, west central and central districts in small grains; counts per 100 sweeps, by district, averaged as follows: Southwest 141, west central 355, central 120, northwest 10. (Minn. Ins. Rpt.). NORTH DAKOTA - Only trace numbers observed in southwest counties. (Frye, Thomasson).

A BARLEY THRIPS (Limothrips denticornis) - NORTH DAKOTA - Adults ranged 2-4 per plant on late barley at Harvey, Wells County; ranged 3-5 adults and nymphs per plant on early barley. (Cushing).

HESSIAN FLY (Mayetiola destructor) - INDIANA - Localized infestations still reported in central and northern areas. (Lehker).

WHEAT STEM MAGGOT (Meromyza americana) - SOUTH DAKOTA - Examination of injury to winter wheat and rye in eastern area shows losses of 1-3 percent of heads. Estimated loss based on 25-30 heads per square foot. (Kieckhefer).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Peak midge emergence from over-wintering sites in high plains area passed. Midges found in Johnsongrass and white tridens head samples from Garza, Crosby, Terry, Floyd, Hockley and Hale Counties. Numbers in these samples much greater and distribution more general than in 1964; however, adult movement appears decreased from previous week. (Rummel, Daniels, Harding).

STEM SAWFLIES (Cephus spp.) - OHIO - Damage to wheat reported in Clark, Union, Pickaway and Clinton Counties. (Hamrick et al.). C. cinctus (wheat stem sawfly) reported active near Hilliard, Franklin County. (McNutt, Blair).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - COLORADO - Cool, wet weather prevented establishment on corn in Arkansas Valley. Damage to corn will diminish in proportion to delay in establishment of populations; not likely to become a problem if cool, wet weather continues. (Schweissing).

GRASSHOPPERS - CALIFORNIA - Trimerotropis rebellis light to medium on grasslands in Mings Canyon, near Banning, Riverside County. Oedaleonotus enigma locally heavy on Russian knapweed in Stratford, Kings County. (Cal. Coop. Rpt.). NEVADA - Adults of Melanoplus bivittatus (two-striped grasshopper) and O. enigma averaged 20 per square yard in native meadows south of Battle Mountain, Lander County. Aulocara elliotti, O. enigma and Hesperotettix viridis averaged 3 per square yard on rangeland in same area. (Earnist). IDAHO - No general grasshopper hatch occurred at higher elevations during June; some first and second-instar nymphs observed, but these scattered. Hatch completed in desert areas with some adults of Aulocara spp. and O. enigma present in most areas. Nymphal surveys indicated economic populations on total of 1,465,340 acres. (PPC). WYOMING - Acreages economically infested with grasshoppers, by county, as follows: Sheridan 150,000, Washakie 10,000, Converse 10,000, Goshen and Platte 20,000. Cooperative control program underway in Goshen-Platte County area July 7. (Spackman). UTAH - Grasshoppers hatched in Box Elder County from Mantua to Willard at 9,300-foot elevation July 5. (Knowlton). Numerous north of Mona, Juab County, and in some foothill areas near new residences on Orem Bench to Provo, Utah County. Populations high and damaging at Scipio, Flowell, Fillmore and elsewhere in Millard County; 1-3 percent winged in some localities. (Esplin, Knowlton). NEW MEXICO - Damage by grasshoppers spotty and severe in several fields of alfalfa in Kirtland area, San Juan County; nymphs ranged 25-50 per 25 sweeps. Nymphs very abundant in weeds and grasslands in foothills in Farmington area, San Juan County, and Albuquerque area, Bernalillo County; beginning to move into irrigated areas. (Heninger). OKLAHOMA - Grasshoppers ranged 1-8 per square yard in Woods and

Woodward Counties, 3-7 per square yard in Craig, Mayes and Ottawa Counties; crop, roadside and associated marginal populations ranged 10-40 per square yard. Crop margin infestations in Grady, Harmon, Lincoln and Osage Counties ranged 6-15 per square yard. Phlibostroma quadrimaculatum, Ageneotettix deorum, Melanoplus packardii (Packard grasshopper), M. bivittatus, M. occidentalis and M. differentialis (differential grasshopper) dominant species. (Okla. Coop. Sur.). KANSAS - Grasshoppers appeared very light in southwest. (Brooks, Simpson). Local populations reported increasing in Cherokee and Elk Counties. (Gates). SOUTH DAKOTA - Grasshoppers mostly noneconomic to light in most areas, including central and southwest areas. Following counts per square yard made: 4-8 in alfalfa in Brule County; 8 on soil bank land in Jones County; 10 along roadsides in Wewela area, Tripp County; 5 in alfalfa southwest of Philip, Haakon County. These highest counts for week ending July 6. Species included M. bivittatus, M. sanguinipes (migratory grasshopper), M. differentialis and M. femurrubrum (red-legged grasshopper); development ranged first to fourth instar. In eastern Pennington and western Haakon Counties, grasshoppers averaged 5 per square yard on rangeland; mostly A. deorum and in first to fourth instars. (Burge). Grasshoppers ranged 20-30 per square yard in some fields near Lemmon, Perkins County; common and ranged 10-12 per square yard in field margins and alfalfa south of Lemmon. Ranged 8-10 per square yard in Corson County field margins; averaged 10 per square yard in field margins of alfalfa north of Moro River in Dewey County, with some spraying done along roadsides; ranged 3-8 per square yard in alfalfa in Lawrence County; averaged 5 per square yard in margins and in fields in Hughes and Walworth Counties. (Burge, Zimmerman). NORTH DAKOTA - No appreciable increase in grasshopper numbers apparent in southwestern area. M. bivittatus remains dominant species; development much retarded due to cool, wet weather. (Frye, Thomasson). MINNESOTA - Egg hatch of M. femurrubrum continued in all districts. First and second-instar nymphal counts high in scattered infestations. Ranged 4-6 per square yard in most alfalfa in Lac qui Parle and Yellow Medicine Counties, with 10-15 per square yard in some fields. Nymphs range 8-25 per square yard in few fields in Lyon, Redwood and Lincoln Counties; movement from roadsides and field margins into soybeans, corn and small grains noted in these counties. M. differentialis nymphs in second and third stages found well into fields but damage noted only along margins. Counts of M. femurrubrum as high as 45 per square yard in Wright County; eggs completely hatched. Heavy rains July 6 washed soil into hatching egg pods and prevented nymphs from emerging; mortality of these few will not affect threatening infestations in Wright County. Early control strongly recommended. (Minn. Ins. Rpt.).

WISCONSIN - M. femurrubrum populations remain relatively low generally in Dodge, Columbia, Dane, Iowa, Lafayette, Grant, Rock and Walworth Counties; range 8-16 per 10 sweeps. Counts much higher in few fields. First-stage nymphs continue to be found, indicating hatch probably not yet complete. (Wis. Ins. Sur.). ILLINOIS - Melanoplus sp. populations generally low; counts per 100 sweeps in clover and alfalfa ranged 20-80 in east-southeast district and 50-400 in west-southwest district. (Ill. Ins. Rpt.). INDIANA - Adults and nymphs of unspecified grasshoppers averaged 2 per sweep in alfalfa in southeastern areas and 1 per sweep in east central areas. Populations ranged 3-4 per sweep in roadside grasses and field borders of alfalfa in southwest. (Huber, White). OHIO - In Fayette County, 9 M. femurrubrum nymphs taken in 25 sweeps on soybeans and 41 collected in 25 sweeps from second-growth alfalfa in Highland County. Det. by H. Niemczyk. (Rose). GEORGIA - Romalea microptera (eastern lubber grasshopper) heavy in cemetery in Spalding County; little damage evident. (Tippins). ALABAMA - R. microptera light and general over much of Clay County. (Barwood).

MORMON CRICKET (Anabrus simplex) - IDAHO - In adult stage last week of June; some populations observed in Washington County. Ranged from 1 per square rod to 3-5 per square yard in approximately 5,000 acres. Principal buildup on conservation reserve land; movement to cultivated crops occurred in small bands. (PPC).

CICADAS - WYOMING - Large numbers reported on rangeland areas in Sheridan, Johnson, Converse and Goshen Counties. (Spackman).

EUROPEAN CHAFER (Amphimallon majalis) - NEW YORK - Adults in full flight since June 23 in Niagara County. (N.Y. Wkly. Rpt.).

CHINCH BUGS - CONNECTICUT - Feeding on lawns in many parts of State. (Savos). NEW JERSEY - Reported active on turf in several areas. (Ins.-Dis. Newsltr.).

ALFALFA WEEVIL (Hypera postica) - NEVADA - Larvae varied 50-150 per sweep in most alfalfa in Preston and Lund, and 3-50 in Baker, White Pine County. (Cooney). UTAH - Damage conspicuous on alfalfa in many fields at Scipio, Millard County; holding back second-growth alfalfa in numerous Juab County fields, especially from Levan to north of Mona. (Knowlton). Controls applied to approximately 35 percent of alfalfa stubble cut for first crop hay in Millard County; approximately 5 percent sprayed before cutting. (Hall, Knowlton). WYOMING - Larvae seriously retarding growth of second-crop alfalfa in Park and Big Horn Counties; ranged 850-1,200 per 100 sweeps in badly damaged fields. (Marks). COLORADO - All stages present in alfalfa in Weld and Larimer Counties; Bathyplectes spp. (ichneumons) abundant. (Urano). No larvae taken in fields checked in Otero, Crowley and Pueblo Counties; pupation complete in most areas. (Schweissing). NEW MEXICO - Mostly adults found in alfalfa in Waterflow, Kirtland and Fruitland, San Juan County; ranged 2-5 per 25 sweeps. (Heninger). SOUTH DAKOTA - Continues to damage unmowed, first-crop alfalfa in Spearfish area, Lawrence County; counts as high as 2,500 per 100 sweeps in these fields. Second to fifth-stage larvae, pupae and teneral adults present. Approximately 20-25 percent pupae. Cocoons of Bathyplectes curculionis (an ichneumon) present in cocoons of H. postica; 17 percent of B. curculionis emerged. (Jones, Walstrom). INDIANA - Collected for the first time in Morgan County. (Huber). MARYLAND - Adults and larvae averaged less than 1 per sweep on alfalfa checked in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). DELAWARE - Few adults and larvae present on alfalfa in New Castle and Kent Counties. (Burbutis, Woodall). VERMONT - Pupation continues; little or no further injury anticipated this season. (MacCollom).

A CLOVER WEEVIL (Tychius stephensi) - ILLINOIS - Collected in red clover in Clark County July 8. This is a new county record. (Ill. Ins. Rpt.).

A WEEVIL (Sitona scissifrons) - SOUTH DAKOTA - Averaged 20 per 100 sweeps of second-crop alfalfa in Brookings County. (Jones, Gubrud).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ILLINOIS - Varied 0-20 (average 14) per 100 sweeps in soybeans in east-southeast district. (Ill. Ins. Rpt.). ALABAMA - Light in few fields of soybeans in Talladega County. (McQueen).

A COLASPIS (Colaspis sp.) - ILLINOIS - Varied 0-80 (average 46) per 100 sweeps in soybeans and 40-80 (average 60) per 100 sweeps in clover and alfalfa in east-southeast district. (Ill. Ins. Rpt.). INDIANA - Averaged 2 adults per corn plant in some localized areas of southwest section. (Huber). OHIO - Adults observed on alfalfa and field corn in Highland, Brown and Clermont Counties; averaged 32 per 25 sweeps on alfalfa in Highland County. Found in tassels of field corn in 2 fields in Brown and Clermont Counties. (Davidson, Rose). ALABAMA - Light in few fields of soybeans examined in Talladega County. (McQueen).

PALE-STRIPED FLEA BEETLE (Systena blanda) - WISCONSIN - Averaged more than 5 per sweep on regrowth alfalfa in Walworth County; common in Walworth-Rock County area. (Wis. Ins. Sur.).

JAPANESE BEETLE (Popillia japonica) - INDIANA - Adults emerging in soybeans in Kentland area, Newton County; average 20 per 100 feet of row. (Gould). OHIO - Collected from alfalfa near Canfield, Mahoning County; averaged about 2 per 25 sweeps. (Spadafora).

BLISTER BEETLES (Epicauta spp.) - ILLINOIS - Varied 0-80 (average 16) per 100 sweeps in soybeans in east-southeast district. (Ill. Ins. Rpt.). NORTH DAKOTA - Trace numbers of E. maculata (spotted blister beetle) taken on wheat near Beach,

Golden Valley County. (Frye, Thomasson). UTAH - Blister beetles, mostly Epicauta maculata (spotted blister beetle), numerous in some blooming, first-crop alfalfa seed fields in Millard County, especially in Pavant Valley area. (Knowlton).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Larval numbers increased slightly; average 30 per 100 sweeps in some Graham County fields. (Ariz. Coop. Sur.). NEW MEXICO - Averaged 2-3 larvae per 25 sweeps in alfalfa near Kirtland, San Juan County. (Heninger). MARYLAND - Light to medium on alfalfa surveyed in Frederick County. (U. Md., Ent. Dept.).

ALFALFA LOOPER (Autographa californica) - WYOMING - Larvae ranged 60-80 per 100 sweeps in alfalfa in Park and Big Horn Counties. (Marks). UTAH - Moderately numerous in many fields of alfalfa in Deseret-Sutherland area, Millard County; few noted at Scipio and Holden. (Knowlton).

SALT-MARSH CATERPILLAR (Estigmene acrea) - OKLAHOMA - Reported damaging alfalfa in Payne County. (Okla. Coop. Sur.).

VARIEGATED CUTWORM (Peridroma saucia) - NEBRASKA - Ranged 1-4 per square foot in blooming alfalfa in Lincoln County. (Pruess).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Larvae light to medium on alfalfa and red clover in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.).

CUTWORMS - GEORGIA - Light to moderate on peanuts in southern area. (French).

PEA APHID (Acyrthosiphon pisum) - MICHIGAN - Increasing rapidly in alfalfa, especially in fields where second growth well underway. Ranged 10-150 per 10 sweeps in 6 Ingham County fields July 6. (Newman). Adult and larval lady beetle populations very low in second-growth alfalfa; A. pisum populations very likely will buildup rapidly. (Dowdy). INDIANA - Populations increased to 8-20 (average 12) per sweep in alfalfa in south central and southwest sections. (Huber). Averaged 1 per sweep in southeast and east central areas. (White). ILLINOIS - Populations remain low; counts per 100 sweeps in clover and alfalfa ranged 10-360 in east-southeast district and 50-150 in west-southwest district. (Ill. Ins. Rpt.). WISCONSIN - Populations increasing; numbers doubled and tripled in several fields of alfalfa examined during past 2 weeks. Highest numbers present on 10-inch regrowth; ranged as high as 50 aphids per sweep in such fields. Many half-grown nymphs present; low percentage appear diseased and/or parasitized. Predators present but not in sufficient numbers to affect adequate control. (Wis. Ins. Sur.). MINNESOTA - Counts per 100 sweeps in alfalfa averaged as follows by district: Southwest 741, west central 592, central 460, northwest 13,500. Predators continue low in all districts. (Minn. Ins. Rpt.). SOUTH DAKOTA - Averaged 990 per 100 sweeps of second-crop alfalfa in Brookings County. (Jones, Gubrud). WYOMING - Adults and nymphs averaged 900 per 100 sweeps in alfalfa in Park and Big Horn Counties. (Marks). COLORADO - Continues to increase in alfalfa in Weld and Larimer Counties; Hippodamia spp. (lady beetles) larvae ranged 40-60 per 100 sweeps, with other predators and parasites increasing. (Urano). A. pisum varied 100-4,000 per 100 sweeps in Prowers, Bent, Otero, Crowley and Pueblo Counties; lady beetles, Nabis spp. (damsel bugs) and other predators numerous in all areas. (Schweissing). A. pisum ranged 500-8,000 per 100 sweeps in western area; predation light in all fields checked. (Bulla). NEW MEXICO - Light to moderate on alfalfa in Waterflow, Fruitland and Kirtland, San Juan County, (Heninger); very light on Dona Ana County alfalfa (Mathews). ARIZONA - Ranged 350-500 per 100 sweeps in Yuma County alfalfa. (Ariz. Coop. Sur.). UTAH - Becoming very numerous on second-crop alfalfa in field in Delta-Sutherland area, Millard County. (Knowlton). NEVADA - In alfalfa, counts varied 25-200 per sweep in Preston and Lund and 20-100 in Baker, White Pine County; averaged 25 per sweep in Diamond Valley, Eureka County, (Cooney); varied 10-150 per sweep in Fish Lake Valley, Esmeralda County, (Bechtel). IDAHO - Widespread in Arena Valley area of Canyon County; up to 1 cupful per 8-10 sweeps collected in untreated alfalfa hay. (Waters). WASHINGTON - All stages on forage and seed alfalfa. Moderate to heavy

in 2 fields near Pasco; some alfalfa beginning to bloom, some in full bloom. Average counts per sweep by county as follows: Yakima, 35 at Mabton; Benton, 90 at Pasco; Walla Walla, 13 at Walla Walla; 50 percent of field checked had populations of migrant alates and progeny previously sprayed. Averaged 15 per sweep at Brownstown, Yakima County. (Halfhill).

SPOTTED ALFALFA WEEVIL (Therioaphis maculata) - WISCONSIN - Populations more than doubled in most areas; very common on regrowth alfalfa throughout much of Rock and southern Dane Counties. (Wis. Ins. Sur.). NEBRASKA - Averaged 1 per sweep in Lincoln County alfalfa. (Pruess). KANSAS - None found in alfalfa in Saline County. (Brooks, Simpson, July 1). COLORADO - Averaged 10 per 100 sweeps of alfalfa in Arkansas Valley. (Schweissing). NEW MEXICO - Very light in few fields of alfalfa in Dona Ana County. (Mathews). ARIZONA - Light to medium infestation appearing on alfalfa in field northeast of Pima, Graham County; this was most heavily infested field during spring. Ranged 150-720 per 100 sweeps in Yuma County alfalfa; lowest counts in Yuma Valley, highest counts in Gila Valley. (Ariz. Coop. Sur.). NEVADA - None found on alfalfa in Eureka or White Pine Counties, (Cooney); few noted in Fish Lake Valley, Esmeralda County, (Bechtel).

YELLOW CLOVER APHID (Therioaphis trifolii) - ILLINOIS - Varied 140-440 per 100 sweeps in red clover in east-southeast district. (Ill. Ins. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - SOUTH DAKOTA - Averaged 70 per 100 sweeps in second-crop alfalfa in Brookings County. (Jones, Gubrud). MICHIGAN - Adults ranged 7-15 per 10 sweeps in 3 Ingham County fields of second-growth alfalfa July 6. (Wooley, Nichols). ILLINOIS - Adults per 100 sweeps varied 0-60 (average 28) in soybeans and 20-380 (average 140) in clover and alfalfa in east-southeast district; no nymphs observed. (Ill. Ins. Rpt.). MARYLAND - Populations appear at peak in alfalfa and red clover in Frederick County. (U. Md., Ent. Dept.). DELAWARE - Increasing on alfalfa and soybeans in Kent and Sussex Counties; ranged 4-6 per 10 sweeps. (Burbutis, Woodall).

PLANT BUGS (Adelphocoris spp.) - INDIANA - A. lineolatus (alfalfa plant bug) heavy throughout southern third of State; adults and nymphs ranged 4-12 per sweep in alfalfa. (Huber, White). ILLINOIS - A. lineolatus adults varied 20-60 and nymphs 0-220 per 100 sweeps in clover and alfalfa in east-southeast district. (Ill. Ins. Rpt.). WISCONSIN - Small nymphs of A. rapidus (rapid plant bug) appearing, indicating start of second generation. (Wis. Ins. Sur.). SOUTH DAKOTA - A. lineolatus averaged 10 per 100 sweeps of second-crop alfalfa in Brookings County. (Jones, Gubrud). KANSAS - A. lineolatus ranged 15-20 per 50 sweeps in Saline County alfalfa. (Brooks, Simpson, July 1).

LYGUS BUGS (Lygus spp.) - IDAHO - Numbers high in some fields of seed alfalfa where spraying delayed in Arena Valley, Canyon County; counts up to 20 per sweep. (Waters). NEVADA - In alfalfa, ranged 20-25 adults and nymphs per sweep in Preston and Lund, and 0-5 in Baker, White Pine County, (Cooney); ranged 5-20 per sweep in Fish Lake Valley, Esmeralda County, (Bechtel). WYOMING - Adults and nymphs ranged 80-135 (average 105) per 100 sweeps in alfalfa in Park and Big Horn Counties. (Marks). NEW MEXICO - Nymphs and adults ranged 8-12 per 25 sweeps in Dona Ana County alfalfa. (Mathews). ARIZONA - Populations decreased in Graham County; averaged 177 adults and nymphs per 100 sweeps in 8 fields of alfalfa. Ranged 140-380 per 100 sweeps in Yuma County, with many small nymphs present. (Ariz. Coop. Sur.). UTAH - Adults and nymphs of L. elisus and L. hesperus causing moderate damage to seed alfalfa buds where no controls applied in eastern and western Millard County areas. (Knowlton).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Adults numerous in many Lower Peninsula hay fields; ranged 8-70 per 10 sweeps in 6 Ingham and Macomb County fields of second-growth alfalfa July 6. (Newman).

FALSE CHINCH BUGS (Nysius spp.) - ARIZONA - Moved from adjacent crops to young stand of "seed increase" alfalfa in Parker area, Yuma County; caused considerable reduction of stand. (Ariz. Coop. Sur.). NEW MEXICO - Heavy on grasses and weeds along field borders in Farmington area, San Juan County. (Heninger).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Yellowing of alfalfa very noticeable in all sections. Ranged from 25 to over 100 per sweep in more heavily infested fields. (U. Md., Ent. Dept.). DELAWARE - Ranged 2-10 per 10 sweeps on soybeans in most areas; averaged 15 per 10 sweeps on alfalfa in Kent County. (Burbutis, Woodall). NEW JERSEY - Leafhoppers, but mostly this species, feeding on alfalfa in many fields. (Ins.-Dis. Newsltr.). VERMONT - Building up on alfalfa and other legumes; no noticeable feeding injury to July 6, however. (MacCollom). MICHIGAN - Adults range 5-30 per 10 sweeps in Ingham County alfalfa sampled July 6. (Dowdy). INDIANA - Adults average 2-4 per sweep in southernmost counties and nymphs 5-8 per sweep in alfalfa in west central area. (Huber). ILLINOIS - Counts per 100 sweeps ranged 20-80 (average 48) adults and 0-10 (average 2) nymphs in soybeans and 100-200 (average 150) adults and 0-60 (average 30) nymphs in clover and alfalfa in east-southeast district. Adults and nymphs ranged 300-500 (average 375) per 100 sweeps in clover and alfalfa in west-southwest district. (Ill. Ins. Rpt.). WISCONSIN - Increasing slowly on regrowth alfalfa with few nymphs appearing. Yellowing noted in few spots in fields of alfalfa; possibly due to this pest. (Wis. Ins. Sur.). MINNESOTA - Counts per 100 sweeps, by district, averaged as follows: Southwest 41, west central 80, central 30, northwest 50. (Minn. Ins. Rpt.). SOUTH DAKOTA - Averaged 3.3 per 100 sweeps of second-crop alfalfa in Brookings County. (Jones, Gubrud).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Continues to increase on alfalfa; averaged 120 per 100 sweeps in Graham County and ranged 60-250 per 100 sweeps in Yuma County. (Ariz. Coop. Sur.).

THRIPS - DELAWARE - Populations of several species decreased slightly on soybeans in most areas; vary 1-4 per leaf. (Burbutis, Woodall). MARYLAND - Continue to cause conspicuous but not serious foliage injury to corn and soybeans in all sections. (U. Md., Ent. Dept.). IOWA - In Scott County, leaves of soybeans showed white areas along veins; on more heavily damaged leaves, surface appeared dusty. (Iowa Ins. Inf., July 7). OKLAHOMA - Frankliniella spp. reported moderate to heavy on peanuts in Bryan and Hughes Counties. (Okla. Coop. Sur.). NEW MEXICO - Light to moderate on alfalfa in San Juan County. (Heninger). NEVADA - Frankliniella occidentalis (western flower thrips) heavy in all maturing alfalfa in Fish Lake Valley, Esmeralda County. (Bechtel).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - VERMONT - Flights vary with evening temperatures. Continued activity expected with warm night temperatures. (MacCollom, July 6). NEW YORK - Captures in bait traps and emergence in cages fluctuated widely in eastern section. In cage at Highland, 68 percent of adults emerged June 30. Emergence stopped in 3 Monroe County cages and occasional in 2 cages in Hamlin and Hilton area. (N.Y. Wkly. Rpt., July 6). OHIO - Delete note in CEIR 15(28):752. Should read as follows: First-generation larvae beginning to ascend apple trees to pupate after emerging from fallen apples on ground; more emerging as time progresses. (Rader, Neal, June 28, 30). INDIANA - Second-brood eggs hatching in Knox County area. (Cleveland). MISSOURI - Second brood active as predicted. New entries in fruit reported from all sections. (Wkly. Rpt. Fr. Grs., July 7).

FRUIT-TREE LEAF ROLLER (Archips argyrospilus) - NEW YORK - Flights continued at high rate in eastern section. (N.Y. Wkly. Rpt., July 6).

EYE-SPOTTED BUD MOTH (Spilonota ocellana) - NEW YORK - Adult flights continued at high rate in eastern section. (N.Y. Wkly. Rpt., July 6).

PEACH TWIG BORER (Anarsia lineatella) - CALIFORNIA - Larvae medium in apricot fruit in Los Molinos, Tehama County. (Cal. Coop. Rpt.).

PEACH TREE BORERS - NEW MEXICO - Sanninoidea sp. very light to heavy around base of fruit trees at Bernalillo, Sandoval County. Over 30 larvae found at base of one large peach tree. (Heninger). COLORADO - S. exitiosa (peach tree borer) adults emerging; egg laying under way on peach in Mesa County. (Bulla). MICHIGAN - Relatively heavy emergence of Synanthedon pictipes (lesser peach tree borer) continues in Kent County orchards. (Klackle, Bowers). INDIANA - All stages of S. pictipes present in peach orchards in Vincennes area, Knox County. (Cleveland).

ORCHARD MITES - VERMONT - Panonychus ulmi (European red mite) still a problem in some blocks but situation improving. (MacCollom, July 6). NEW YORK - Red species serious in few orchards in Wayne County but building up rapidly in some orchards in Monroe County. P. ulmi population peak expected July 11-12 at Highland and several days later at Marlboro; beginning to multiply in Orleans County. (N.Y. Wkly. Rpt., July 6). PENNSYLVANIA - P. ulmi increasing and heavy on apples in some areas of Indiana County. (Udine, June 8). OHIO - P. ulmi averaged 16 per leaf on apple in orchard near Batavia, Clermont County. Averages rose from 18 to 49 per leaf within last 2 weeks in apple block at Wooster, Wayne County. Populations appear to be rising. (Rader, Near, Rose). INDIANA - P. ulmi populations range up to 13 eggs and 30 active forms per leaf in check blocks of apples in Vincennes area, Knox County; average up to 5 per leaf in well cared for orchards. (Cleveland). MICHIGAN - P. ulmi adults and nymphs low in many fruit areas. Sustained warm weather could cause high populations. (Howitt, et al.). MISSOURI - P. ulmi populations decreased generally in orchards in all areas; few pockets of infestation remain. Tetranychus telarius (two-spotted spider mite) averages 1-2 per leaf in most orchards. (Wkly. Rpt. Fr. Grs., July 7). UTAH - P. ulmi moderately numerous in some orchards in Utah County. (Barlow, Knowlton). NEW MEXICO - Unspecified spider mites damaging foliage of apple in Kirtland area, San Juan County. Several growers treating. (Heninger).

APPLE APHID (Aphis pomi) - WISCONSIN - Populations increasing on some treated apple trees in Door County. (Wis. Ins. Sur.).

SAN JOSE SCALE (Aspidiotus perniciosus) - UTAH - Still a problem on pears in smaller orchards in Utah County. (Barlow, Knowlton).

PEAR PSYLLA (Psylla pyricola) - WASHINGTON - Second-generation adults generally light on pear with few heavy outbreaks at Wenatchee, Chelan County. (Burts). Second-generation nymphs causing severe damage at Walla Walla, Walla Walla County. (Telford).

WHITE APPLE LEAFHOPPER (Typhlocyba pomaria) - NEW YORK - Observed in sprayed and unsprayed orchards in Wayne County; light in sprayed orchard. (N.Y. Wkly. Rpt., July 6). WISCONSIN - Larvae and adults common and injury noticeable in orchard at Madison. (Wis. Ins. Sur.).

PLUM GOUGER (Anthonomus scutellaris) - TEXAS - Heavy locally on plums in Scurry County. (Deutsch, Hoover).

THIEF ANT (Solenopsis molesta) - CALIFORNIA - Adults heavy on apricot fruit locally in Brentwood, Contra Costa County. (Cal. Coop. Rpt.).

PEAR-SLUG (Caliroa cerasi) - OREGON - Rather large numbers showing up in young pear orchards in Willamette Valley. (Larson). WISCONSIN - Small first-generation larvae feeding on cherry in Dane County. (Wis. Ins. Sur.).

A WEB-SPINNING SAWFLY (Neurotoma fasciata) - FLORIDA - Larvae feeding on leaves of wild black cherry 6 miles west of Tallahassee, Leon County. Det. by W. W. Middlekauff. (Fla. Coop. Sur.).

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - No emergence reported. (MacCollom, July 6). RHODE ISLAND - Few adults on apple in Exeter July 2. (Mathewson, Sorensen). NEW YORK - Adult emergence continued heavy in eastern section; females still most numerous. Adults emerging slowly in Monroe County cages. (N.Y. Wkly.

Rpt., July 6). MICHIGAN - First adult activity of season in Oceana County observed July 1. (Wells et al.). WISCONSIN - First adult caught in bait trap at Madison July 4. Above normal flights might be anticipated. (Wis. Ins. Sur.).

A CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) - CALIFORNIA - Total of 450 Frick traps installed and 150 fruit samples gathered on north border of program area as of July 9. No positive finds. (Cal. Coop. Rpt.).

Quarterly Insect and Mite Outlook in Florida - July through September - This outlook is based on the assumption that weather beyond the period of the current U.S. Weather Bureau's 30-day outlook will be normal. Therefore, the forecast given below cannot be viewed with the same degree of confiednce as those in the "Citrus Insect and Disease Summary" usually released twice each month.

CITRUS RUST MITE (Phyllocoptruta oleivora) will increase until early August, then decline. About 45 percent of groves will develop moderate to heavy infestations. Statewide population not expected to exceed normal high range for summer. TEXAS CITRUS MITE (Eutetranychus banksi) record high population of June will drop sharply after mid-July and decline to low level by September. CITRUS RED MITE (Panonychus citri) will reach summer peak at subnormal level in July and only scattered infestations expected thereafter. GLOVER SCALE (Lepidosaphes gloverii) infestations are expected to remain in high range with about 40 percent of groves moderate to heavy. BLACK SCALE (Saissetia oleae) populations will be high in July with heavy infestations in about 45 percent of groves. Gradual decrease will occur after mid-July. PURPLE SCALE (Lepidosaphes beckii), CHAFF SCALE (Parlatoria pergandii), YELLOW SCALE (Aonidiella citrina), a SNOW SCALE (Unaspis citri), a LESSER SNOW SCALE (Pinnaspis stachani) and MEALYBUGS will be above normal abundance; all are expected to decrease in August and September. WHITEFLIES are expected to decrease and be at normal summer level until mid-September. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred).

Citrus Insect Situation in Florida - End of June - CITRUS RUST MITE infested 44 percent of groves (norm 56 percent); 28 percent economic (norm 32 percent). Upward trend will continue through July. Population will be near normal level for State as a whole but districts will vary greatly. Highest districts are south, west, central, north and east. TEXAS CITRUS MITE infested 85 percent of groves (norm 78 percent); 68 percent economic (norm 57 percent). Population increased sharply and is highest on record since this pest was first discovered on citrus in State. Decrease expected in July. All districts high. CITRUS RED MITE infested 64 percent of groves (norm 78 percent); 28 percent economic (norm 54 percent). Although population is below normal for June, some heavy infestations present in all districts. Decrease expected after mid-July. Highest districts are north and south. GLOVER SCALE infested 90 percent of groves, 41 percent economic. Population will continue at record high level of past 6 weeks. Highest districts are south, central, east and north. PURPLE SCALE infested 89 percent of groves, 21 percent economic. Population increased above normal level; decrease expected; very few infestations heavy. Highest districts south, east and central. CHAFF SCALE infested 83 percent of groves, 30 percent economic. Population increased to record high level of March 1964. Very few infestations heavy. Little change expected. Highest districts east, south and central. BLACK SCALE infested 87 percent of groves, 61.6 percent economic. Population is highest in 15 years of record. Further increase expected until mid-July. All districts have numerous heavy infestations and high indexes. YELLOW SCALE infested 73 percent of groves, 16 percent economic. Population reached highest level in 15 years of record; however, very few infestations heavy. Decrease expected. Highest districts central and south. A SNOW SCALE and a LESSER SNOW SCALE are above normal abundance. MEALYBUGS infested 84 percent of groves, 40 percent economic. Population above average and at summer peak; decrease expected after mid-July. All districts high. WHITEFLIES infested 69 percent of groves, 20 percent economic. Populations are at normal level; decrease expected. Highest districts are west east and south. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Unusually large numbers continue with highest concentrations in Miami Springs, Dade County. Spread continues, with infestations now known in Dade, Broward and Palm Beach Counties. Adults taken in wet traps and larvae in variety of dooryard tropical fruits. Survey intensified. (Fla. Coop. Sur.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Spraying continues for protection of new growth and fruit in Yuma County. (Ariz. Coop. Sur.).

ORANGE-DOG (Papilio cresphontes) - ARIZONA - Appeared for first time this season in Yuma County. Larvae found on home citrus. (Ariz. Coop. Sur.).

CITRICOLA SCALE (Coccus pseudomagnoliarum) - CALIFORNIA - Heavy on citrus trees in San Luis Obispo, San Luis Obispo County. (Cal. Coop. Rpt.).

BROWN SOFT SCALE (Coccus hesperidum) - ARIZONA - Medium on citrus trees in nurseries in Pima County. (Ariz. Coop. Sur.).

BARNACLE SCALE (Ceroplastes cirripediformis) - TEXAS - Light locally with counts up to 25 per stem on grapefruit trees in the lower Rio Grande Valley in Hidalgo County. (Texas Coop. Rpt., Page).

PECAN SPITTLEBUG (Clastoptera achatina) - SOUTH CAROLINA - Reported from Horry, Georgetown and Dillon Counties; more numerous in Pee Dee area for past 3 years than in past 30 years. (Nettles et al., July 5).

FILBERTWORM (Melissopus latiferreanus) - OREGON - First adults of season appeared in blacklight traps in Lane County, July 5. (Hatch).

FALL WEBWORM (Hyphantria cunea) - OREGON - Adults emerged and webs appearing on walnut trees in western section. (Goeden).

CRANBERRY GIRDLER (Crambus topiarius) - MASSACHUSETTS - Heavy adult flights continue in cranberry bogs in Plymouth County. (Tomlinson, July 2).

A LEAF ROLLER MOTH (Sparganothis sulfurana) - MASSACHUSETTS - Adults abundant on several cranberry bogs in Barnstable County. (Tomlinson, July 2). Actively ovipositing in Plymouth and Barnstable Counties. (Tomlinson).

CRANBERRY FRUITWORM (Acrobasis vaccinii) - MASSACHUSETTS - Heavy adult flights continue in cranberry bogs in Plymouth County. (Tomlinson, July 2). Egg laying heavy in Plymouth and Barnstable Counties on warm nights. Treatments being made. (Tomlinson).

HEATH SPITTLEBUG (Clastoptera saintcyri) - MASSACHUSETTS - Very abundant on wild ericaceous hosts and in cultivated blueberries in Plymouth and Barnstable Counties. (Tomlinson).

BLUEBERRY MAGGOT (Rhagoletis mendax) - NEW HAMPSHIRE - First adult of season taken in ammonia trap at Rochester July 5. (Meader). MASSACHUSETTS - Adults now very active in Plymouth and Barnstable Counties; controls needed. (Tomlinson). NEW JERSEY - Adult activity near peak. (Ins.-Dis. Newsltr.).

TRUCK CROP INSECTS

GOLDEN NEMATODE (Heterodera rostochiensis) - CANADA - The following announcement was released by the Canada Department of Agriculture, Ottawa, Canada, June 21, 1965:

"The golden nematode a serious pest in all potato and tomato crops has been found in a commercial field of potatoes in the Saanich Peninsula of Vancouver Island the Department of Agriculture announced today. Under the authority of the Destructive Insect and Pest Act the farm on which the nematodes were found has been placed under quarantine, impending further investigation. A ban has been placed on exports of plants and crops with soil from Vancouver Island.

This is the first infestation of golden nematodes found in Canada other than in New Foundland.

It is regarded as one of the most serious pests on potatoes. While it attacks only potatoes, tomatoes and egg plants, it can be transported from infested fields in the soil or on the roots of other plants. International regulations require the Canada Department of Agriculture to certify freedom from the golden nematode on all export shipments of plants or crops with soil.

The Department is now conducting an intensive survey of the area to determine the extent of the infestation and the measures required to deal with the problem."

COLORADO POTATO BEETLE (Leptinotarsa decemlineata)- NEW YORK - Very active on eggplant in Niagara County. (N. Y. Wkly. Rpt., July 8). DELAWARE - Larvae and adults caused considerable feeding injury to peppers in an area of New Castle County. (Burbutis, Woodall).

Aphids on Potatoes in Maine - Untreated 1-8 inch high potato plants at Aroostook Farm, Presque Isle, Aroostook County, average 0.5 aphid per plant with 19 percent of plants infested. Plants 6-10 inches tall averaged 0.14 aphid per plant with 7.5 percent of plants infested. Populations more than double those of a week ago or at this time in 1964, and about the same as this time in 1963. Macrosiphum euphorbiae (potato aphid) predominates by far, followed by Aphis nasturtii (buckthorn aphid) and Myzus persicae (green peach aphid). Acyrthosiphon solani very scarce. (Shands et al.)

GREEN PEACH APHID (Myzus persicae) - VERMONT - Prevalent on poorly protected potatoes. (MacCollom, July 6). NEW YORK - Building up on some pepper fields in Niagara, Orleans and Genesee Counties. (N. Y. Wkly. Rpt., July 8). NEW JERSEY - Easily found on lower leaves of potatoes in many fields. (Ins.-Dis. Newsltr.). DELAWARE - Abundant on potatoes in area of western Kent County; present on peppers in Sussex County. (Burbutis, Woodall).

POTATO APHID (Macrosiphum euphorbiae) - NEW YORK - Numerous colonies developing in some tomato fields in Niagara, Orleans and Genesee Counties. (N. Y. Wkly. Rpt., July 8). - MARYLAND - Continues light to moderate on commercial tomatoes in Worchester County. (U. Md., Ent. Dept.)

TOMATO HORNWORM (Protoparce quinquemaculata) - COLORADO - Ranged 1-5 per plant and damaging tomatoes in Mesa County. Controls being used. (Bulla).

TOMATO PINWORM (Keiferia lycopersicella) - ARIZONA - Causing considerable leaf and fruit damage to tomatoes in Yuma, Yuma County. (Ariz. Coop. Sur.).

TURNIP APHID (Hyadaphis pseudobrassicae)- UTAH - Extremely numerous and damaging turnips at Springville, Utah County. (Knowlton)

HARLEQUIN BUG (Murgantia histrionica) - ALABAMA - Adults and nymphs heavy on older turnips, rape and collards in home gardens in Cullman and other northern counties. (Rose et al.).

CABBAGE LOOPER (Trichoplusia ni) - UTAH - Attacking cabbage and cauliflower in Flowell-Fillmore area, Millard County. (Knowlton).

IMPORTED CABBAGEWORM (Pieris rapae)- MARYLAND - Larvae heavily injured cabbage locally in Queen Annes County. (U. Md., Ent. Dept.). IDAHO - Population in Moscow area higher than in last several years. (Manis).

FLEA BEETLES - NORTH CAROLINA - Phyllotreta striolata (striped flea beetle) adults numerous and damaging in rutabaga field in Pamlico County. (Mount). MARYLAND - Phyllotreta spp. heavy locally on cabbage in Queen Annes County. (U. Md., Ent. Dept.). WISCONSIN - Unidentified species reached highs of 7-10 per plant on broccoli, brussels sprouts, cabbage and radishes in Bayfield County. (Wis. Ins. Sur.). WYOMING - P. striolata adults averaged 32-46 per 100 sweeps in potato and sugar beet fields of Park and Big Horn Counties. (Marks). NEVADA - Unspecified species required control in late planted sugar beets in Hualapi Valley, Washoe County. (McKay).

SUGAR-BEET ROOT MAGGOT (Tetanops myopaeformis) - COLORADO - Damage appearing in fields in Beebe Draw and Auburn areas of Weld County. (Urano et al.).

SPINACH LEAF MINER (Pegomya hyoscyami) - WYOMING - Larvae numerous in sugar beet leaves throughout fields in Park and Big Horn Counties. (Marks).

SEED-CORN MAGGOT (Hylemya platura) - VERMONT - Destroyed over 60 percent of field of dry beans planted June 7 in Ferrisburg. (MacCollom, July 6).

GARDEN FLEAHOPPER (Halticus bracteatus) - MARYLAND - Abundant and destructive to snap beans and squash in Centreville area, Queen Annes County. (U. Md., Ent. Dept.

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Heavy populations causing conspicuous injury to unprotected snap beans and squash in Centreville area, Queen Annes County. (U. Md., Ent. Dept.). WISCONSIN - Populations on some lima bean plantings in Rock County more than 2 per plant. Controls expected. (Wis. Ins. Sur.).

PEA APHID (Acyrthosiphon pisum) - WISCONSIN - Some increase evident in late peas. (Wis. Ins. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Larvae and adults extremely heavy on lima and snap beans in home gardens throughout much of northern section. (Rose et al.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Destroying stand of germinating lima beans in Spalding County. (Dupree).

BEAN LEAF SKELETONIZER (Autoplusia egena) - CALIFORNIA - Larvae medium in bean plantings in Portuguese Bend, Los Angeles County. (Cal. Coop. Rpt.).

THRIPS - MARYLAND - Heavy numbers of Thrips tabaci (onion thrips) seriously damaged several onion plantings in Queen Annes and Talbot Counties. Unidentified species a continuing problem on snap and lima beans on Eastern Shore. (U. Md., Ent. Dept.). NEW YORK - Unspecified species heavy on Spanish onions in Niagara, Orleans and Genesee Counties. (N. Y. Wkly. Rpt., July 8). CALIFORNIA - Frankliniella occidentalis (western flower thrips) adults are heavy on summer squash, beans and egg plant in Stanton, Orange County. (Cal. Coop. Rpt.).

ONION MAGGOT (Hylemya antiqua) - NEW YORK - Second-brood adults active on onions in Madison and Oneida Counties. (N. Y. Wkly. Rpt., July 8).

ASPARAGUS BEETLES (Crioceris spp.) - MARYLAND - Adults of C. asparagi (asparagus beetle) and C. duodecimpunctata (spotted asparagus beetle) medium to heavy on garden asparagus brush locally in Montgomery and Frederick Counties. (U. Md., Ent. Dept.). RHODE ISLAND - C. duodecimpunctata population continues extremely high in planting in East Greenwich, Kent County. Collected in Narragansett,

Washington County. (Mathewson, Hannah, Mueller).

STRIPED CUCUMBER BEETLE (Acalymma vittatum) - NEW YORK - Adults quite active and larvae light on cucurbits in some areas of Niagara, Orleans and Genesee Counties. (N. Y. Wkly. Rpt., July 8).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - OKLAHOMA - Heavy in gardens in Choctaw County. (Okla. Coop. Sur.).

SQUASH BUG (Anasa tristis) - MARYLAND - Building up on unprotected garden squash in Centreville area, Queen Annes County. (U. Md., Ent. Dept.).

SQUASH VINE BORER (Melittia cucurbitae) - GEORGIA - Moderate infestation on squash in Hancock County. (Ellis).

STRAWBERRY APHID (Chaetosiphon fragaefolii) - CALIFORNIA - Medium on strawberries in Chico, Butte County. (Cal. Coop. Rpt.).

A WEEVIL (Sciopithes obscurus) - OREGON - Probably this species appearing for first time in strawberry fields in Silverton Hills area, Marion County. (Every).

A JAPANESE WEEVIL (Calomycterus setarius) - RHODE ISLAND - Collected in raspberry in East Greenwich, Kent County. (Hannah, Mathewson).

LEAFHOPPERS - NEW JERSEY - Adults beginning flights in cranberry bogs. (Ins.-Dis. Newsltr.).

LEAF ROLLER MOTHS - NEW JERSEY - Sparganothis spp. adult activity at peak in cranberry bogs. (Ins.-Dis. Newsltr.).

A MINT FLEA BEETLE (Longitarsus waterhousei) - OREGON - Emergence underway in mint fields in Willamette Valley. (Every).

ALFALFA LOOPER (Autographa californica) - OREGON - Larvae present in some mint fields in Willamette Valley. (Morrison).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - High adult populations causing conspicuous injury to lower leaves of tobacco in southern counties. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Infestations of 1-10 percent common on tobacco in Anne Arundel and St. Marys Counties. (U. Md., Ent. Dept.).

STALK BORER (Papaipema nebris) - VIRGINIA - Larvae boring through stems and stalks of tobacco plants in field in Scott County. (Isakson, Reynolds, June 29).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Light but widespread on tobacco in southern sections. Expected to be general problem on tobacco during last half of July. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Infestations extremely high throughout entire Coastal Plain area. Some untreated fields with 85 percent infested bolls. Infestations high in certain Piedmont counties. (Insect Notes). Punctured 46 percent of squares in 6 untreated or poorly treated fields of cotton in Johnston and Wayne Counties. Infestation ranged 0-4 percent in 3 untreated fields. (Mount).

SOUTH CAROLINA - Infestations much heavier than average even in best protected fields. Infestation in treated fields 10 percent and 40 percent in untreated fields compared with infestations of 3.6 and 11 percent in same period in 1964. (Cott. Ltr.). In Florence area, emergence about over. Control good in treated fields but heavy in untreated fields. (Taft et al.). GEORGIA - Light to heavy infestations in southern area, with adults extremely heavy in some fields for time of year. (French). In one Putnam County field, 41 percent square infestation. (Calvert). Increasing in several other counties. (Birdsong et al.). ALABAMA - Infestations continue heavy throughout south, central and lower sections of northern counties. Heavy infestations in isolated fields and on borders of larger fields in extreme northern section. Infestations 2-90 percent in Pickens County. (McQueen). MISSISSIPPI - Generally, infestations light but more widespread than last two years. Heavy infestations reported in Pike, Humphreys, Franklin and Quitman Counties. (Young, Bennett). Sharp increase in south delta area due to emergence of first-generation adults. (Pfrimmer et al.). TENNESSEE - Infestations found in only 30 percent of fields checked; range 1 to 21 percent punctured squares with average of 4 percent. Few generally infested fields. Controls started in most fields with 10 percent or more infestation. (Locke). LOUISIANA - Counts in 34 Madison Parish fields averaged 22 percent with range of 0 to 61. ARKANSAS - First-generation weevils emerging in blooming cotton. (Ark. Ins. Sur.). TEXAS - Generally light in Blacklands, east, central and lower Rio Grande Valley areas. Most rolling plains counties reported infestations and 65 fields found infested in counties below Caprock in high plains treatment area. Light populations in Presidio County. (Texas Coop. Rpt.). Increased in McLennan and Falls Counties as new generation weevils found in most fields. Twelve treated fields averaged 4.1 percent punctued squares; ranged 0-14.7 percent. Averaged 11.8 (range 0-78) percent in 29 untreated fields. (Cowan et al.).

A WEEVIL (Anthonomus sp.) - ARIZONA - Many punctured squares found in Stanfield area of Pinal County; one larva recovered during week. (Ariz. Coop. Sur.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Increased in 13 counties reporting with 4.6 percent infestation in treated fields and 10 percent in untreated. (Cott. Ltr.). In Florence area, activity less than previous week. (Taft et al.). TENNESSEE - Light; only an occasional larva found and few squares show injury. (Locke). GEORGIA - Light to moderate in southern area. (French). ALABAMA - Rather light over most of State with heavier infestations in more southern counties. Heaviest infestations in Bullock, Henry, and Tallapoosa Counties. (McQueen). MISSISSIPPI - Light throughout State. Between flights. (Young, Bennett, Pfrimmer et al.). LOUISIANA - Infestation light in Madison Parish, but slight increase in number of eggs found. (Taft et al.). ARKANSAS - Of 1,402 fields scouted in Jefferson County, 72 percent had no bollworms present and 73 percent no eggs. (Ark. Ins. Sur.). MISSOURI - Egg counts ranged 0 to 3 per 100 terminals. (Jones). TEXAS - Sharp increase in McLennan and Falls Counties. In 15 untreated fields, eggs averaged 6.8 and larvae 1.8 per 100 terminals and in 28 untreated fields eggs averaged 8 and larvae 2.4. (Cowan et al.). Increasing in rolling plains and Brazos River section of east central area. Light in trans-Pecos and Blacklands areas and light to moderate in lower Rio Grande Valley. (Texas Coop. Rpt.). CALIFORNIA - Low numbers in Imperial County. (Campbell, July 1). Moths active at light traps; few larvae found in field. Not economic at present but new brood in late July and early August may need attention. (Leigh).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Significant populations in Neuces County. (Neff). Increasing in Pecos and Reeves Counties. (Neeb).

CABBAGE LOOPER (Trichoplusia ni) - SOUTH CAROLINA - Reported in a few counties (Cott. Ltr.). GEORGIA - Light in Brooks County. (Girardeau). TEXAS - Some damage reported from Jim Wells County. (Deer).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Remains threat in some Pima County fields; light infestations in some Graham County cotton. (Ariz. Coop. Sur.). CALIFORNIA - Spotted infestations, not requiring control, remain in Kern, Kings and Tulare Counties. (Leigh, July 1).

STALK BORER (Papaipema nebris) - VIRGINIA - Larvae reported boring in cotton plants in Tidewater area. (Isakson, Smith). TEXAS - Infestation continues to decline in McLennan and Falls Counties; averaged 1 per 100 terminals. (Cowan et al.).

COTTON SQUARE BORER (Strymon melinus) - TEXAS - Light infestations in many rolling plains counties. (Boring).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Heavy infestations in Kiowa County; considerable spraying for control. (Okla. Coop. Sur.). TEXAS - L. similalis (garden webworm) damaging in local areas of Floyd, Cottle, King and Yoakum Counties. (Rummel, Boring).

COTTON LEAFWORM (Alabama argillacea) - TEXAS - Damage east of La Feria, Cameron County. (Deer).

FLEAHOPPERS - TENNESSEE - Found in light numbers over cotton-growing area. (Locke). LOUISIANA - Light populations in the several Madison Parish fields checked. (Cleveland et al.). TEXAS - Psallus seriatus (cotton fleahopper) - Increased sharply in counties north of Ft. Worth-Dallas area. Principal cotton pest in Blacklands area. Heavy damage in Dickens County and increase in all of high Plains area. Light to heavy and increasing in rolling plains counties and infestations reported from several trans-Pecos counties. Decreasing in east central Texas and Gulf Coast sections. (Texas Coop. Rpt.). ARIZONA - P. seriatus increasing in Graham County; averaged 35 per 100 net sweeps. Fluctuating but increasing in Pinal County. Ariz. Coop. Sur.

A BLACK COTTON FLEAHOPPER (Spanogonicus albofasciatus) - NEW MEXICO - Building up in fields of cotton in Artesia area, Eddy County. Treatments begun in some fields. (Campbell). ARIZONA - averaged 60 per 100 sweeps in Yuma Valley cotton; moving from other crops. Decrease in Pinal County and about same as previous week in Graham County. (Ariz. Coop. Sur.).

LEAFHOPPERS - CALIFORNIA - Heavy populations in some Imperial County fields. Most treatments of cotton during previous week for leafhoppers. (Campbell). ARIZONA - Empoasca spp. averaged 180 per 100 sweeps in Yuma County cotton. (Ariz. Coop. Sur.).

PLANT BUGS - MISSISSIPPI - Spotted in Coahoma, Calhoun and Washington Counties; some damage and controls applied. Lygus lineolaris (tarnished plant bug) present in many delta fields but do not justify controls in most cases. (Pfrimmer et al.). LOUISIANA - L. lineolaris very light in Madison Parish. (Cleveland et al.). TENNESSEE - General over cotton-growing area, but below control level. (Locke). MISSOURI - Populations ranged 0 to 24 per 100 plants. (Jones). TEXAS - Observed in several rolling plains counties and in Culberson County. (Texas Coop. Rpt.). ARIZONA - Increasing in Graham and Pinal Counties. Damage in some areas of Graham County with average counts of 17 per 100 sweeps. Pinal averaged 30 and Yuma 8 to 10 per 100 sweeps. (Ariz. Coop. Sur.). CALIFORNIA - Lygus hesperus counts of 8-14 general in untreated fields in Fresno County. Infestations spotty on east side of county and general on west side. (Stromberg, July 1). Infestations noted in many parts of San Joaquin Valley of Kern County, and economic levels reached near Shafter and in Tulare Lake basin. (Leigh).

APHIDS - GEORGIA - Light to moderate in southern area. (French). TEXAS - Present in localized areas of Harris County; decreasing in rolling plains section. (Texas Coop. Rpt.).

THRIPS - OKLAHOMA - Moderate to heavy in Hughes, Bryan and Choctaw Counties. (Okla. Coop. Sur.). TEXAS - Some late fields in north central area continue to be damaged. (Texas Coop. Rpt.).

SPIDER MITES - SOUTH CAROLINA - Localized injury, in some cases extremely heavy, reported from Piedmont counties. (Cott. Ltr.). GEORGIA - Light to moderate in southern area. (French). Light to heavy in Washington County. (Mercer). MISSISSIPPI - Heavy in Leflore and Tallahatchie Counties. (Young, Bennett). Increasing in some delta county fields. (Pfrimmer et al.). MISSOURI - Spot treat-

ments made on 343 fields during week ending July 7. (Jones). TEXAS - populations low but increasing in Blacklands area. (Turney). CALIFORNIA - Treatments for mites general in Fresno County. (Stromberg, July 1). Very abundant in Kern County fields not treated. (Leigh, July 1).

LEAF MINERS - Mississippi - Damage noted in number of delta fields. (Pfrimmer et al.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - ALABAMA - Scattered pines, from 1-6 per group, dying from attacks of adults and larvae in widespread isolated areas of State. Most of this around infestations that occurred last year, lightning damage and pine shavings and freshly cut limbs placed against trees. (McQueen).

PINE WEEVILS - NEW YORK - Damage to branches of Scotch pine by Pissodes approximatus (northern pine weevil) and Hylobius pales (pales weevil) noticeable again this year in Cayuga County. (N.Y. Wkly. Rpt., July 8).

BLACK PINE LEAF SCALE (Aspidiotus californicus) - NORTH DAKOTA - Collected from Mugho pine at Marion, La Moure County, May 18 by W. McCleary. This is the first record of this species in the State. Large numbers noted on Mugho pine; few males active. (Frye, May 28).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - MICHIGAN - Heavy on some Scotch and Austrian pines in Ionia and Ottawa Counties. (Saylor, Cogswell, Marlowe). NORTH CAROLINA - Lightly infesting pine needles in Perquimans County. (Brown, Robertson).

PINE SAWFLIES (Neodiprion spp.) - PENNSYLVANIA - Outbreaks of N. sertifer continued over widespread areas. Severe stripping of Scotch, red and Austrain pines in Susquehanna, Crawford, Luzerne, Lawrence, Butler, Monroe and Columbia Counties. Control applied in area of Columbia County. Outbreak also in Moraine State Park near Butler. (Penna. For. Pest Rpt., July 7). GEORGIA - N. lecontei (red-headed pine sawfly) heavy on pines in Houston County (Allmond) and Franklin County (Ashworth). MINNESOTA - N. pratti banksianae (jack-pine sawfly) still feeding Mille Lacs to Bemidjii; feeding generally completed in east central and northeast districts. (Minn. Ins. Rpt.).

YELLOW-HEADED SPRUCE SAWFLY (Pikonema alaskensis) - MINNESOTA - Light, scattered infestation on roadside and ornamental plantings; middle to late instars active from Koochiching to Carlton Counties. Considerable damage to ornamental roadside planting of white spruce on Highway 65 near Grand Rapids. (Minn. Ins. Rpt.).

LARCH SAWFLY (Pristiphora erichsonii) - PENNSYLVANIA - Attacks widespread in larch plantings in area of Clinton County. Control applied. (Penna. For. Pest Rpt., July 7).

BALSAM TWIG APHID (Mindarus abietinus) - UTAH - Damaging new growth of fir trees from 7,500 to 9,500 feet elevation, at and below Willard Basin of Box Elder County. (Knowlton).

BALSAM WOOLLY APHID (Chermes piceae) - OREGON - Reports by Siskiyou National Forest personnel show that species has extended its known range southward and is now found in Curray-Jackson Counties. Infestation on grand fir found near Gold Beach and south of Galice in southwestern part of State. (Orr).

PANDORA MOTH (Coloradia pandora) - OREGON - Pupation began week of June 28-July 3 in a small outbreak on lodgepole and ponderosa pines on Winema National Forest. Before pupation, control applied on 320 acres as a test. (Orr).

ORANGE TORTRIX (Argyrotaenia citrana) - CALIFORNIA - Medium infestation on blue spruce trees locally in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

JACK-PINE BUDWORM (Choristoneura pinus) - MICHIGAN - Larvae causing heavy defoliation in several areas of northern Lower Michigan. (Flink).

A GELECHIID MOTH (Exoteleia burkei) - CALIFORNIA - Heavy larval and adult populations infesting Monterey pines in Los Gatos, Santa Cruz County. (Cal. Coop. Rpt.).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - PENNSYLVANIA - Severe attack of red pine plantings in French Creek Park, Berks County. Trees noticeably becoming malformed. (Penna. For. Pest Rpt., July 7). NEW YORK - Adults emerged in Scotch pine plantation at Martville, Cayuga County June 29-30. (N.Y. Wkly. Rpt.).

DOUGLAS-FIR TUSSOCK MOTH (Hemerocampa pseudotsugata) - OREGON - Control applied to about 60,000 acres of infested Douglas-fir and true firs on Malheur National Forest near Burns. (Orr).

A PINE NEEDLE SHEATH MINER (Zelleria haimbachi) - CALIFORNIA - Medium larval and pupal populations in Pinus attenuata in Claremont, Los Angeles County. First record south of Tehachapi Mountains. (Cal. Coop. Rpt.).

SPRUCE NEEDLE MINER (Taniva albolineana) - NEW HAMPSHIRE - Adults emerging in numbers at Rochester, June 22. (Conklin).

FOREST TENT CATERPILLAR (Malacosoma disstria) - MINNESOTA - Pupation 100 percent in International Falls to Orr area. First moths noted July 7. Peak emergence expected about July 15. (Minn. Ins. Rpt.). PENNSYLVANIA - Noticeable defoliation of 2,000 acres in Clinton County; 3,000-4,000 acres up to 100 percent stripped in central Columbia County. Other infestations in Tioga, Lackawanna, Northumberland, Crawford and Cambria Counties. (Penna. For. Pest Rpt., July 7).

WESTERN TENT CATERPILLAR (Malacosoma pluviale) - OREGON - Adults emerging and found in large numbers in black light traps in Yamhill, Washington and Marion Counties. Egg masses on apple trees and wild roses in Washington County. (Larson, Hemmerling).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - OKLAHOMA - Damaging pecan, hickory and walnut around State. (Okla. Coop. Sur.).

GYPSY MOTH (Porthetria dispar) - RHODE ISLAND - Adults emerged in laboratory. (Veilleux). NEW YORK - Adult emergence began at lower elevations in the Hudson Valley and egg mass formation well started near Gardiner by July 5. Large larvae and pupae still found at higher elevations. Defoliation had passed peak by July 5. (N.Y. Wkly. Rpt.). MICHIGAN - A high percentage of 6,000 traps now in position and about 30 being serviced per day. (Turner).

FALL CANKERWORM (Alsophila pometaria) - PENNSYLVANIA - Outbreak continuing in many areas of northern tier of counties. In some areas, defoliation less than last year but heavier in others. Defoliation moderate to heavy in areas around Galeton and Costello, Potter County, and areas of McKean, Monroe, Erie and Warren Counties. Complete stripping in northwest quarter of Crawford County in areas where heavy last year. Northern hardwood and oaks affected. Associated insects include Erannis tiliaria (linden looper) and Operophtera bruceata (Bruce spanworm). (Penna. For. Pest Rpt., July 7).

OAK LEAF ROLLERS - PENNSYLVANIA - Croesia semipurpurana and Archips spp. defoliation of oaks continued unabated this year. Severe damage and large acreages of oak mortality in Lycoming, Clinton and Cameron Counties. Early reports indicated over 100,000 acres heavily stripped in Cameron and equal amount in Lycoming. Moderate to heavy stripping in parts of Cumberland, Monroe, Carbon, Schuylkill, Lackawanna, Luzerne, Bucks and Berks Counties. Adult flights heavy last week of June. (Penna. For. Pest. Rpt., July 7).

PINK-STRIPED OAKWORM (Anisota virginiensis) - MINNESOTA - Eggs being laid in oaks at Sand Lake in northern Pine County. Considerable mortality in 20-acre tract due to previous defoliation. (Minn. Ins. Rpt.).

A LEAF-FEEDING GRASSHOPPER - WISCONSIN - Scattered heavy feeding on oaks in vicinity of Stephenson, Marinette County, consisting of parts of 3 townships on July 6. Population appears to approximate that of 1959 season. (Wis. Ins. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEW MEXICO - Light to heavy populations skeletonizing foliage of Chinese elms in Waterflow and Aztec areas, San Juan County. (Heninger). COLORADO - Larvae caused defoliation in all areas; high to moderate numbers in most places. (Bulla). OKLAHOMA - Considerable damage to elms in most areas of State. (Okla. Coop. Sur.). NEBRASKA - Defoliating elm in Lincoln County. (Pruess). OHIO - Second generation in Franklin County. (Galford). Still of concern in Champaign and Butler Counties. (Rinehart, Zorn, Delaplane). ALABAMA - Second generation quite heavy in Lee, Randolph, Tallapoosa, Cullman and other northern counties. (Pinkston et al.). MARYLAND - Larvae heavily feeding on American elms on several properties in Anne Arundel, Montgomery and Prince Georges Counties. (U. Md., Ent. Dept.).

A LEAF MINING WEEVIL (Odontopus calceatus) - OHIO - Adults in Guernsey and Hocking Counties. This is a northward and eastward extension of its range in State. Populations light and damage slight but may be serious in year or two. (Hay, Delaplane).

LOCUST LEAF MINER (Xenochalepus dorsalis) - ARKANSAS - Some trees in northwest show signs of heavy feeding. (Ark. Ins. Sur.).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Heavy damage continues over State. (Okla. Coop. Sur.). KANSAS - Heavy on juniper, arborvitae and apple in residential area in Manhattan, Riley County. (Simpson). MISSOURI - On a black locust tree in Audrain County, July 6. (Peters, Craig). On several domestic and wild hosts over southern half of State. Infestation light to heavy. (Houser, Ashley). ILLINOIS - Damage to evergreens in southern area very noticeable. (Ill. Ins. Rpt.). INDIANA - Evergreen injury noticeable in southern two-thirds of State. Larvae over one-half inch in Lafayette, Tippecanoe County area and larger to south. (Schuder).

BAGWORMS - GEORGIA - Heavy on cedar and apples in Tattnall County. (Johnston).

MIMOSA WEBWORM (Homadaula albizziae) - MARYLAND - Infestations conspicuous on mimosa and honeylocust in southern counties. (U. Md., Ent. Dept.). OHIO - Infestation of 20-30 honeylocusts in Guernsey County. One-third to one-half of individual trees webbed. (Galford). INDIANA - Lighter than normal on mimosa and honeylocust. (Schuder). ILLINOIS - Damage to mimosas light to severe in southern area. (Ill. Ins. Rpt.). ALABAMA - Infestations on mimosa continue in northern area but much lighter this year than usual. (Rose, Pinkston et al.).

BOXELDER LEAF ROLLER (Gracilaria negundella) - UTAH - Severely defoliated boxelder trees in mouth of Wellsville Canyon, Cache County. (Knowlton, Bohart).

SPITTLEBUGS (Clastoptera spp.) - COLORADO - C. arborina unusually abundant on evergreens in Fort Collins area of Larimer County. (Daniels, Thatcher). ARIZONA - Clastoptera spp. defoliating Parkinsonia aculeata in Yuma County. (Ariz. Coop. Sur.).

SPITTLEBUGS - MINNESOTA - Very noticeable throughout jack pine range; some very heavy infestations noted. Late instars and some adults appearing. (Minn. Ins. Rpt.). GEORGIA - Heavy on holly in Athens area (Smith); heavy adult infestation on centipede grass in Oconee County (Jordan). SOUTH CAROLINA - Extremely numerous in rainy parts of coastal area and in Johnsonville. (Nettles et al., July 5).

WALKINGSTICK (Diapheromera femorata) - WISCONSIN - Nymphs were three-fourths to one and one-quarter inches in Eau Claire County on June 25 and in Menominee County on July 6. Infestation consisted of about a section in Eau Claire County area. (Wis. Ins. Sur.).

SPIDER MITES - MARYLAND - Various species infesting hemlock, spruce, rose, hollyhocks and Prunus spp. in suburban sections. (U. Md., Ent. Dept.). WISCONSIN - Several species numerous on yews, arborvitae and spruce in parts of Portage, Wood and Columbia Counties and caused noticeable damage. Populations not quite as high

in Door County area. (Wis. Ins. Sur.). NEBRASKA - Undetermined species heavy on many ornamentals in Lincoln County. (Pruess). OKLAHOMA - Tetranychus spp. moderate to heavy on variety of ornamental plantings over State. (Okla. Coop. Sur.).

AN ERIOPHYID MITE (Aculus ligustri) - CALIFORNIA - Heavy populations infesting privet shrubs in San Pedro, Los Angeles County. (Cal. Coop. Rpt.).

A CIMBICID WASP (Cimbex rubida) - CALIFORNIA - Heavy damage to willow tree leaves in Sausalito, Marin County. (Cal. Coop. Rpt.).

PEAR SLUG (Caliroa cerasi) - NEVADA - Light to medium damage to hawthorne trees in Reno-Sparks area of Washoe County. (Coop. Rpt.).

COCCIDS - FLORIDA - Pseudococcus adonidum (long-tailed mealybug) moderate to severe on seagrape, severe on jasmine and Aralia sp. in nursery at Rockledge, Brevard County, July 1. Severe damage by Diaspis boisduvalii to leaves of Queen palm (Arecastrum romanzoffianum) in nursery at Rockledge, July 1. (Levan). UTAH - Pulvinaria innumerabilis (cottony maple scale) severe on young silver maple trees near Ogden, Weber County. (Fronk, Knowlton). Aphis spiraecola (spirea aphid) extremely numerous and foliage very sticky at Logan, Cache County, and about many homes in northern area of State. (Knowlton). ARIZONA - Light to heavy infestations of Saissetia oleae (black scale) on gardenia in nurseries in Tucson. (Ariz. Coop. Sur.). CALIFORNIA - Heavy adult populations of Gossyparia spuria (European elm scale) on elms in Reedly, Fresno County. Heavy populations of Pseudococcus adonidum infesting Raphis palms nursery stock in Ontario, San Bernardino County. Locally heavy populations of Ceroplastes cirripediformis (barnacle scale) on gardenia shrubs in Parlier, Fresno County. (Cal. Coop. Rpt.).

APHIDS - CALIFORNIA - Heavy adult populations of Thoracaphis umbellulariae on laurel trees in Soquel, Santa Cruz County. Heavy larval and adult populations of Prociphilus fraxinifolii on Modesto ash tree nursery stock in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt.). NEW HAMPSHIRE - Hormaphis hamamelidis unusually prevalent in lakes region, July 1. (Conklin).

LILAC LEAF MINER (Gracilaria syringella) - WASHINGTON - Moderate damage to lilacs and privets from spring generation. Summer generation damage expected severe if uncontrolled at Puyallup and Sumner, Pierce County. (Breakey).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Notching lilac leaves at Salt Lake City, Logan and Nephi. (Knowlton). Moderately troublesome about several Sanpete County communities. (Purnell, Knowlton).

PERIODICAL CICADA (Magicicada septendecim) - VIRGINIA - Heavy in Alleghany, Augusta, Bath and Highland Counties. (Amos). PENNSYLVANIA - Brood V appeared in Fayette, Greene and Washington Counties. Twig damage widespread. (Penna. For. Pest Rpt., July 7).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - OHIO - Most prevalent species in vicinity of Toledo, Lucas County, included Aedes vexans, A. stimulans, Culex pipiens and C. restuans. A. vexans most common of group. (Brockway). MINNESOTA - Total of 3,977 mosquitoes collected in 16 light traps in Metropolitan Mosquito Control District during week ending July 3. Of these, 1,003 were Aedes vexans, 831 Culex tarsalis and 1,606 Culiseta inornata. In 34 evening bite collections of 15 minutes duration, 122 were A. vexans and 16 were C. tarsalis. In 462 daytime bite collections of 5 minutes duration, A. vexans was the most numerous. Because of extremely heavy rains several broods of A. vexans appeared. Substantial increase in numbers expected week of July 12. Number of mosquito breeding sites has increased greatly as result of numerous rains during past several weeks in Minneapolis-St. Paul area. Larval control extremely difficult. (Minn. Ins. Rpt.). IOWA - Populations variable;

bite collections of unspecified species ranged 12-15 per minute in some areas and zero in other areas. (Iowa Ins. Inf., July 7). KANSAS - Very few Culex tarsalis adults observed during survey in flooded Arkansas River Valley in southwest and south central districts. Larval populations of C. tarsalis as follows: Very light (2 per dip) at one location in Syracuse area; very light (4 per dip) in flooded pasture in Garden City area; no larvae found in Dodge City area, but considerable adult activity reported; ranged 15-25 per dip in overflow ditch along Route 56 in Pawnee Rock area; averaged 2 per dip in overflow ditch along same road in Great Bend area. (Simpson, July 1). Populations severe in Riley County resulting from several weeks of heavy rains. Primary species are Aedes vexans, Culex pipiens, Psorophora ciliata and Psorophora spp. (Kuntson). WYOMING - Large populations of unspecified species causing considerable annoyance to man and animals throughout State. (Marks). NEVADA - Anopheles freeborni heavy in Soldier Meadows area, Washoe County. (Bechtel). Unspecified mosquitoes heavy in Battle Mountain area, Lander County, and along Humboldt River. (Earnist). TEXAS - Infestations of several species heavy in Crockett County. (Neeb). MISSISSIPPI - Medium mosquito populations observed in delta area. (Young, Bennett, July 6). FLORIDA - Species collected in 6-minute bite collections per hour in hammock area at Gainesville, Alachua County, on July 4: Mansonia perturbans 750, Aedes triseriatus 60, Culex sp. 40, Aedes atlanticus/tormentor 30, Psorophora ferox 20, Aedes fulvus pallens 10. Hourly rate for same species dropped considerably following day. (Esser). SOUTH CAROLINA - Undetermined species annoying in various locations over State. (Nettles et al., July 5).

HORN FLY (Haematobia irritans) - TEXAS - Light on cattle in Jackson County. (Wilson, Newton, Meisch). MISSISSIPPI - Heavy rains should cause increase in populations. Populations heavy in delta area. (Young, Bennett, July 6). OKLAHOMA - Populations continue at same level throughout State as reported in CEIR 15(28):765. (Okla. Coop. Sur.). MISSOURI - Ranged 100-500 per animal on cattle checked in southeast district July 7. (Houser). KANSAS - Ranged 50-200 per animal in Ellsworth County. (Brooks, Simpson, July 1). IOWA - Ranged 50-500 (average 200) per head on beef cattle (Iowa Ins. Inf., July 7). VIRGINIA - Troublesome to beef cattle at location in Nottoway County. (Isakson, Cassell). MARYLAND - Ranged 0-15 per head on dairy cattle checked in Frederick County. (U. Md., Ent. Dept.).

STABLE FLY (Stomoxys calcitrans) - MARYLAND - Ranged 0-10 per head on dairy cattle checked in Frederick County. (U. Md., Ent. Dept.). ILLINOIS - Counts vary 1-10 (average 4.5) per animal in Macoupin-St. Clair County area. (Ill. Ins. Rpt.). IOWA - Counts on feedlot cattle show definite increase; extreme annoyance indicated by stamping and switching among cattle observed. (Iowa Ins. Inf., July 7). MISSOURI - Ranged 5-20 per animal on cattle checked in southeast district July 7-8. (Houser). OKLAHOMA - Averaged 4-5 per head on cattle in Stillwater area, Payne County. (Okla. Coop. Sur.). KANSAS - Populations high in Riley County. (Simpson). MISSISSIPPI - Populations medium in delta area. (Young, Bennett, July 6).

TABANIDS - NEVADA - Chrysops sp. adults heavy in Preston and Lund areas, White Pine County. (Cooney). UTAH - Extremely numerous and troublesome at 9,300 feet from Mantua to Willard Basin in Box Elder County and in Green Canyon in Cache County. (Bohart, Knowlton). Annoying livestock in Ogden Valley, Weber County, and at Perry, Box Elder County. (Knowlton). NEW MEXICO - Tabanus spp. very abundant and annoying to livestock and man in fields and along streams in areas near Blanco, Bloomfield, Aztec and La Plata, San Juan County. (Heninger). WYOMING - Chrysops spp. and Tabanus spp. adults causing some annoyance to man and animals in Park and Big Horn Counties. (Marks). OKLAHOMA - Counts of Tabanus spp. generally fewer than 1 per head on cattle in southeast area. (Okla. Coop. Sur.). MISSOURI - Tabanus spp. ranged 0-3 per animal on cattle checked July 7-8 in southeast area. (Houser). MISSISSIPPI - Horse flies present in medium numbers in delta area. (Young, Bennett, July 6).

FACE FLY (Musca autumnalis) - MARYLAND - Ranged 0-20 per head on dairy cattle checked in Frederick County. (U. Md., Ent. Dept.). GEORGIA - Heavy on Hereford beef animals in Rabun County. (Coleman). OHIO - Average of about 9 flies per face on a mixed herd of Herefords and Angus beef cattle near Buena Vista, Fayette County. Individuals with counts of 0-16 per face. (Rose). IOWA - Numbers remain low; ranged 0-10 (average 3) per head. (Iowa Ins. Inf., July 7).

HOUSE FLY (Musca domestica) - OKLAHOMA - Counts of 8 per Scudder grid noted in Stillwater area, Payne County. Numbers heavy in Ellis County. (Okla. Coop. Sur.).

HOG LOUSE (Haematopinus suis) - OKLAHOMA - Large numbers of eggs noted on brood sows in Pauls Valley area, south central. (Okla. Coop. Sur.).

BED BUG (Cimex lectularius) - PENNSYLVANIA - Extremely heavy in house in Clarion County; heaviest infestation observed in 16 years. Present at this location for approximately 1 year; children severely bitten. (Adams).

MASKED HUNTER (Reduvius personatus) - IDAHO - Adult collected in home in Saint Maries, Benewah County. (Judd).

A REDUVIID BUG (Triatoma gerstaeckeri) - TEXAS - Causing concern to homeowners in Fayette County. (Mode).

LONE STAR TICK (Amblyomma americanum) - GEORGIA - Heavy on livestock in Hancock County. (Ellis). OKLAHOMA - Adults ranged 5-25 per head on cattle with 25-50 larvae per head in southeast area. (Okla. Coop. Sur.).

AMERICAN DOG TICK (Dermacentor variabilis) - MISSOURI - Numerous on dogs in Putnam County July 6. (Peters). OKLAHOMA - Fewer than 1 per head noted on cattle in southeast area. (Okla. Coop. Sur.).

CHIGGER MITES - PENNSYLVANIA - Heavy and annoying humans in Clarion County. (Adams). IOWA - Continue annoying in some areas. (Iowa Ins. Inf., July 7). OHIO - An increase in Trombicula spp. irritations in period June 22-July 7 in southern and central areas. (Rose).

A BROWN SPIDER (Loxosceles reclusa) - OKLAHOMA - Increased activity noted around homes in some parts of State. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

EUROPEAN EARWIG (Forficula auricularia) - CONNECTICUT - Continues a problem around many homes in State. (Savos). RHODE ISLAND - Especially high populations continue and cause homeowner concern over State. (Mathewson, Veilleux, Hannah). UTAH - Very numerous about forest camp areas and community of Huntsville and west of Ogden, Weber County. (Knowlton). Troublesome in many Millard County communities. (Hall, Knowlton).

EARWIGS - NEW JERSEY - Invading homes in northern counties. (Ins.-Dis. Newsltr.). VERMONT - Reported from Windsor County. (MacCollom, July 6).

OLD-HOUSE BORER (Hylotrupes bajulus) - VIRGINIA - Adult in home in Stanley, Page County. (Isakson, Saunder, June 30).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - NEW JERSEY - Entering homes in central counties. (Ins.-Dis. Newlstr.).

A WOOD COCKROACH (Parcoblatta pennsylvanica) - NEBRASKA - Common in buildings near Platte River following flood in Lincoln County. (Pruess).

STORED-PRODUCT INSECTS

LARDER BEETLES - PENNSYLVANIA - Still collecting these in pet food, dead flies and in attic in northwest area. More persistent than ever before. (Adams).

A DERMESTID BEETLE (Attagenus sp.) - TEXAS - Infestation noted in grain warehouse in Bell County. (Hill).

BENEFICIAL INSECTS

LADY BEETLES - WYOMING - Adults and larvae of several species averaged 52 per 100 sweeps in alfalfa fields of Park and Big Horn Counties. (Marks).

DAMSEL BUGS - WYOMING - Adults of Nabis spp. averaged 108 per 100 sweeps in alfalfa fields of Park and Big Horn Counties. (Marks). WASHINGTON - Undetermined species collected 1 per 10 sweeps when present on pea aphid infested forage alfalfa. (Halfhill).

A FLOWER BUG (Orius insidiosus) - WISCONSIN - Very common in whorls of corn. (Wis. Ins. Sur.).

PARASITES - CALIFORNIA - Agathis ninanae, Apanteles sp., Aphidius pisivorus, Chelonus sp. and ichneumons occurring in medium populations in clover plantings in Windsor, Sonoma County. (Cal. Coop. Rpt.).

A BRACONID (Aphidius smithii) - WASHINGTON - Adults regularly collected in forage and seed alfalfa fields along Yakima River drainage (Yakima and Benton Counties) and at Walla Walla areas east to Blue Mountains. (Halfhill).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - NEW HAMPSHIRE - First adult of season, July 1, at West Claremont. (Mason). VERMONT - First adult noted at Rutland Fair grounds July 1. (MacCollom). RHODE ISLAND - Isolated individuals in Cranston and Providence, Providence County; in Exeter and Peace Dale, Washington County. Past usual date for beginning of general emergence. (Mathewson et al.). CALIFORNIA - Total of 6,000 traps in operation by July 4; earlier placed traps relocated. Visual surveys completed on 15,000 properties on approximately 2,000 city blocks in Sacramento area. (Cal. Coop. Rpt.).

AN ANT (Novomessor cockerelli) - CALIFORNIA - Local infestation found on remote desert peak 50 miles southwest of Needles, San Bernardino County. Collected May 25, 1965, and determined by R. Snelling. This is a new State record. (Cal. Coop. Rpt.).

FOUR-LINED PLANT BUG (Poecilocaspus lineatus) - MICHIGAN - High adult populations apparent in many Lower Peninsula counties. Characteristic feeding injury apparent on certain broad-leaf weeds and many other plants. (Janes, Wells, Miller).

CORRECTIONS

CEIR 15(27):740 - COOPERATIVE SURVEY ENTOMOLOGISTS - INDIANA - Should read Roger T. Huber.

CEIR 15(28):747 - SOD WEBWORMS - WISCONSIN - Nomaphila noctuella (a pyraustid moth) should read Nomophila noctuella.

CEIR 15(28):752 - CODLING MOTH (Carpocapsa pomonella) - OHIO - Delete note; should read as follows: "Few first-generation larvae beginning to ascend apple trees to pupate after emerging from fallen apples on ground; more emerging as time progresses. (Rader, Neal, June 28, 30)."

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carcapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (fall/marsh caterpillar)	Faronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege similalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (true armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	**
ARKANSAS																								
Hope 7/1-7/6				4						0	11					7				7				
Kelso 7/1-7/6				0						0	5					2				0				
Fayetteville 7/1-7/6				40						0	26					49				0				
FLORIDA																								
Gainesville 7/6			BL						1	1							1			1		15		
ILLINOIS (County)																								
Champaign 7/2-7/8				10												70	5			127			2	
MARYLAND																								
Centreville 6/29-7/5				72							0			78	46					612				
Worchester 7/2-7/5				29							2			4	54					201			1	
MASSACHUSETTS																								
E. Wareham 6/28-7/2			2 BL																	21				
E. Wareham 7/3-7/9			2 BL																	57				
E. Wareham 7/6			BL		3																			
MICHIGAN (Counties)																								
Berrien 7/3-7/9			BL	17										8	4	1				208				
Branch 7/3-7/9			BL	4										2	1	0				20				
Jackson 7/3-7/9			2 BL	9										3	1	0				46				
Livingston 7/3-7/9			BL	17										11	2	0				141				
Ionia 7/3-7/9			BL	28										9	7	1				163				
Saginaw 7/3-7/9			BL	16										4	2	0				32				
Iron 7/3-7/9			BL	1										0	1	0				7				
Newaygo 7/3-7/9			BL	27										4	4	0				38				
MINNESOTA																								
Shakopee 6/27-7/2				3									0						14					
Worthington 6/26-7/2				33									5						110					
Fergus Falls 6/26-7/2				0									0						7					
MISSISSIPPI																								
Stoneville 7/2-8	71-95	0.68	2 BL	20			1		47	1	10				2	113	1	15	20		15	6		
Rolling Fork 7/2-8	70-97	0.6	BL	7			2		19		1				1	12	2	23	2			14		
Tunica 7/2-8	69-97	0.36	BL	37			7		97	2	31				3	156	4	16	7	2	1	8		
MISSOURI																								
Portageville 7/3-9				3							9			76	0	51			8					
NEBRASKA																								
Bushnell 6/22-28				5		20									57				238					
Chappell 6/14-20				1		9									14				40					
Chappell 6/21-27				15		30													86					

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (dark-sided cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronia tritina (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops**
NEBRASKA continued																						
North Platte 6/25-7/1				47		252				17				11	71		1		377			
Ogallala 6/22-27				19		201				1					74				479			
NEW JERSEY																						
Edinburg 7/5, 9										1				1		2			661			
Seabrook 7/5, 9										1				2		39	1	2	374			
Masonville 7/5, 9										3						5			333			
Aura 7/5, 9										10				1		8			95			
Hardingville 7/5, 9					8																	
Hurffville 7/5, 9					8																	
New Market 7/5, 7, 8										0				0					68			
NORTH DAKOTA																						
Fargo 7/2-9													1									
Bismarck 7/2-9				6									8	18					15			
Williston 7/2-9				1										2					5			
Bowman 7/2-9				2									1						9			
Sheyenne 7/2-9														1					2			
OHIO (Counties)																						
Licking 7/1-7			BL	2															8			
Wayne 7/1-7			BL	20													1		10			
Franklin 7/4-5			BL	13				5							9	3	1		31			
SOUTH CAROLINA																						
Charleston 6/28-7/4	64-89	0.90	BL	1			0		0	0	18				0	2	0	0	0		0	20
Charleston 7/5-11	70-92	0.96	BL	2			0		0	0	14				0	6	0	0	0		0	7
SOUTH DAKOTA																						
Brookings 7/1-8			BL	23										21					140			
TENNESSEE (Counties)																						
Knox 6/29-7/5				20					8		4				16	60			56			
Johnson 6/29-7/5				28					4		4				72	4			272			
TEXAS																						
Waco 7/3-9				8			1	19			43				13	16			8	3		50
WISCONSIN																						
Platteville 7/1-5			BL	3							0			1	1				9			
Mazomanie 6/28-7/6			BL	7							0			2	4				23			
Madison 6/30-7/6	36-88		BL	85	7						0			2	8				83			
Middleton 6/30-7/6			BL	21	6						0			3	2				23			
De Forest 6/29-7/5			BL	3							0			7	1				32			
Fox Lake 6/22-28			BL								0			40					91			
Beaver Dam 6/22-28			BL								0			164					154			
Astico 6/22-28			BL								0			58					17			

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Feralia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiticalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pendemis ortlingwalli (yellow-striped armyworm)	Periplaneta americana (American cockroach)	Periplaneta americana (American cockroach)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
WISCONSIN continued																								
Oakfield 6/29-7/5			BL								0				33					65				
Wayne 6/29-7/5			BL								0				25					40				
Theresa 6/29-7/5			BL								0				23					37				
Nenno 6/29-7/5			BL								0				0					20				
Hancock 7/1-7/7			BL	1							2				0	1				5				
Waldo 6/24-7/5			BL												20					108				
Cedar Grove 6/22-28			BL	6							0				4					48				
WYOMING																								
Centennial 6/8-19						48																		
Centennial 6/20-25						71														1				
Cheyenne 6/22-28				10		83										68				123				

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

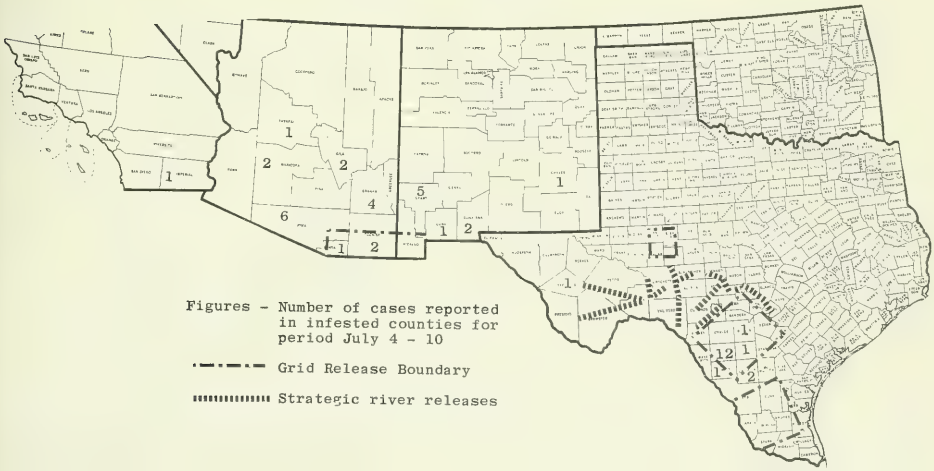
** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

STATUS OF THE SCREW-WORM (*Cochliomyia hominivorax*) IN THE SOUTHWEST

During the period July 4 - 10, a total of 47 cases was reported in the Southwestern Eradication Area, as follows by State and counties: TEXAS - Frio 1, Jeff Davis 1, La Salle 2, Dimmit 1, Medina 1 and Zavala 12; NEW MEXICO - Grant 5, Luna 1, Dona Ana 2, Chaves 1; ARIZONA - Yavapai 1, Cochise 2, Gila 2, Pima 6, Maricopa 2, Graham 4, Santa Cruz 1; CALIFORNIA - Imperial 1. In addition, one larva was identified from an unspecified county in Texas. The Republic of Mexico reported 175 cases: Sonora 52, Chihuahua 25, Nuevo Leon 2, Tamaulipas 2, Coahuila 31, Baja California 2, Territory of Baja California Sur 23, Durango 21, Veracruz 11, San Luis Potosi 6. Sterile screw-worm flies released: Texas 18,538,250, New Mexico 3,040,000, Arizona 9,392,000, the Republic of Mexico 84,592,000. First flies released in California since the State was included in the eradication area totaled 100,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding weeks in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	128	2,015	123	4,160	104.06	48.43
1964	4	99	61	3,935	6.55	2.51
1965	47	361	85	3,182	55.29	11.34
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	108	927	51	1,072	211.76	86.47
1965	177	2,367	59	1,273	300.00	185.93
Table 2A. Mexican portion of Barrier Zone only.						
1964	105	859	37	422	283.78	203.55
1965	137	2,073	34	680	402.94	304.85

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Dis. Erad. Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Minnesota (State or District) DURING 1964 (Year)

ATTACKING Potatoes (Commodity or Crop)

A. Pest or pest complex: Wireworms, potato leafhopper, flea beetles

B. Number of acres[a] produced (From CRS) No. 96,000

C. Average yield per acre[a] (From CRS) Units/ 103 cwt.

D. Price[b] per unit (cwt.)[c] (From CRS) $/ 3.05

E. Acres[a] needing control No. 90,000

F. Acres[a] treated No. 68,980

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 10

I. Loss in yield, units per acre[a], C x H Units/ 10.3 cwt.

J. Loss in yield, $ per acre[a], D x I $/ 31.42

K. Loss in quality, $ per ----[a] $/ ----

L. Yield loss for all acres[a], (E-F) x I Units 216,506 cwt.

M. Control cost, $ per acre[a], $/ 6.00

N. Control cost for all acres[a], F x M $ 413,880.00

O. Yield loss for all acres[a], (E-F) x J $ 660,448.40

P. Quality loss for all ----[a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 1,074,328.40

R. Percent loss due to each insect in the complex: Wireworms 40, potato leafhopper 30, flea beetles 30

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Robert Flaskerd

Date March 19, 1965

ATTACKING Sugar beets (Commodity or Crop)

A. Pest or pest complex: Webworms, cutworms

B. Number of acres[a] produced (From CRS) No. 119,600

C. Average yield per acre[a] (From CRS) Units/ 11.1 tons

D. Price[b] per unit (ton)[c] (From CRS) $/ 12.30

E. Acres[a] needing control No. 40,000

F. Acres[a] treated No. 40,000

G. Reduction due to not treating where needed:

H. Loss in yield, percent % Trace

I. Loss in yield, units per ----[a], C x H Units/ ----

J. Loss in yield, $ per ----[a], D x I $/ ----

K. Loss in quality, $ per ----[a] $/ ----

L. Yield loss for all ----[a], (E-F) x I Units ----

M. Control cost, $ per acre[a], $/ 3.00

N. Control cost for all acres[a], F x M $ 120,000

O. Yield loss for all ----[a], (E-F) x J $ ----

P. Quality loss for all ----[a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 120,000

R. Percent loss due to each insect in the complex: Cutworms 90, webworms 10

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Robert Flaskerd

Date March 19, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MD. 20781

OFFICIAL BUSINESS

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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Washington, D. C. 20250

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Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

Volume 15 July 23, 1965 Number 30

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

EUROPEAN CORN BORER heavy in southern Indiana and usually high percentage of corn in Iowa will be susceptible to attack by second brood this year. CORN EARWORM populations high in early sweet corn in Nebraska and small larvae common in sweet corn in Wisconsin. (p. 811). CORN ROOTWORMS damaging and causing lodging of corn in several areas. (pp. 812, 813). JAPANESE BEETLE reported damaging to several crops and some ornamentals; reaching economic levels in Indiana. (pp. 813, 822, 825, 833). CORN LEAF APHID infesting up to 80 percent of corn in southern Indiana and 90 percent of corn in southern and central Wisconsin; controls anticipated in Wisconsin. (pp. 813, 814). ENGLISH GRAIN APHID building up in Idaho and Nebraska. CHINCH BUG continues of concern in Ohio, Indiana and Illinois. (p. 814). Damaging GRASSHOPPER populations moving into alfalfa in Idaho; causing serious defoliation of some alfalfa in Utah. Grasshoppers moderate to heavy on rangeland in Oklahoma, and rangeland infestations reported from several Western States; numbers increasing in central Nebraska. Grasshoppers appear somewhat lower in Wisconsin than at same time in 1964. Damaging cotton in Texas. (pp. 815, 816, 829).

PEA APHID increasing on alfalfa in Colorado and Wisconsin, counts rather high in Minnesota and Columbia Basin of Washington; BENEFICIAL INSECTS and disease low in Minnesota and Wisconsin. (pp. 816, 817). SPOTTED ALFALFA APHID increases evident in Arizona, Oklahoma and Wisconsin. (p. 817). Several PLANT BUG species of concern on seed alfalfa and other legumes. (pp. 817, 818). POTATO LEAFHOPPER yellowing alfalfa in Vermont and Indiana, large numbers occurring throughout New York and increasing on soybeans in Delaware; unusually high on some truck crops in several States. (pp. 818, 823, 824). ALFALFA WEEVIL damaging second-growth alfalfa in Idaho and damage more serious in Utah than in 1964. Problem subsiding in Colorado and Wyoming. (p. 818).

ORCHARD MITES continue a problem in some areas, building up in others; problem worst ever reported in northwest Missouri. (p. 820). GREEN JUNE BEETLE damaging grapes and peaches in several areas of Oklahoma. APPLE MAGGOT adults emerging in large numbers in Wisconsin, controls recommended in Minnesota. HICKORY SHUCKWORM causing drop of pecans in Alabama and Oklahoma. (p. 821). Heaviest outbreak of SPITTLEBUGS in several years occurring on pecans in coastal areas of South Carolina. (p. 822). COLORADO POTATO BEETLE heavy and damaging in several potato-growing areas. (p. 823). First GREEN CLOVERWORM general adult flight of season evident in Michigan; larval field problems, if any, not expected to develop before late July. (p. 824). ONION THRIPS at economic levels on Western Slope of Colorado. (p. 825).

BOLL WEEVIL activity increasing as first-generation adults emerge; overwintered weevils reported below and above the Caprock in Texas. (p. 826, 827). LYGUS BUGS increasing on some cotton in New Mexico and more damage noticeable to squares in Arizona; abundant in several areas of San Joaquin Valley, California. Several heavy PINK BOLLWORM infestations noted in Eddy County, New Mexico. (p. 828).

JACK-PINE BUDWORM caused heavy defoliation in central and northern Lower Michigan. (p. 830). ELM LEAF BEETLE defoliation severe in several areas. (p. 832). FACE FLY causing cattle to cluster in Ohio and a factor in reducing milk production in southwestern area of Wisconsin. (p. 833). MOSQUITOES remain problem in several States. (pp. 833, 834). HORN FLY troublesome to cattle in Utah and Oklahoma; populations heaviest in 3 years in southeastern South Dakota. (p. 834).

(Continued on page 810).

DETECTION

New State records include: EUROPEAN CHAFER (Amphimallon majalis) in Ohio (p. 816); a TORTRICID MOTH (Choristoneura houstonana) in Nebraska (p. 832); FACE FLY (Musca autumnalis) in Utah (p. 833); and a MAY BEETLE (Phyllophaga tristis) in Washington (p. 836). New County records reported included a PINE NEEDLE-SHEATH MINER (Zelleria haimbachi) in Napa County, California, (p. 831); ELM LEAF BEETLE (Galerucella xanthomelaena) in Union County, Iowa, (p. 832).

A single adult of a BEAN WEEVIL (Zabrotes subfasciatus) collected from cotton at Blythe, Riverside County, California. Previously known in the United States only from Texas. (p. 824).

CORRECTIONS

See page 837.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 841).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Peas in Minnesota and Wheat, Oats, Corn and Popcorn in Nebraska in 1964. (pp. 842-844).

Reports in this issue are for week ending July 16 unless otherwise indicated.

WEATHER OF THE WEEK ENDING JULY 19

HIGHLIGHTS: (1) Average temperatures mostly near normal. (2) Light showers West; heavier but widely scattered showers East.

TEMPERATURE: Temperatures averaged near or slightly cooler than normal in most areas. It was as much as 3° cooler in parts of the Rockies and the southern Appalachians; as much as 3° warmer than normal in parts of the Far West and southern Great Plains. Normal temperatures are near their summer peak in most areas and daily highs were in the 100's in the Southwest, frequently in the 90's from New Mexico to the Atlantic coast, and occasionally in the 90's from the central Great Plains to southern New England. A very humid air mass continued over the South and Southeast. Temperatures were changeable only from the western Great Lakes to New England and consistent in most other areas.

PRECIPITATION: Scattered thundershowers in the West were variable with amounts mostly less than 0.5 inch; only scattered locations had more than 1 inch. Weekly totals east of the Rockies ranged widely from 0.5 inch or less to 2 inches or more. A few locations received more than 4 inches. A surprising report from Selbyville, Delaware, is of 10.13 inches in the 9 days ending July 18.

RAINS IN THE NORTHEAST: Showers during the week were most frequent over the Great Lakes and in the Southeast including Florida. Showers moved into the Northeast late in the week bringing 2.4 inches to Albany, New York, and 2.1 inches to Trenton, New Jersey. Small areas in Connecticut received 2 to 5 inches. However, other parts of New England, New York, and Pennsylvania received less than 0.25 inch. These were very beneficial for agriculture but the major water shortages of the Northeast were changed but little. (Summary supplied by U.S. Weather Bureau).

See page 837 for Weather Bureau's 30-Day Outlook.

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH DAKOTA - Percent pupation and adult emergence respectively, by county, as follows: Cass 90 and 20, Richland 97 and 40, Sargent 98 and 40, Ransom 97 and 40. Egg masses per 100 corn plants as follows: Cass County 1, Richland County 2, Sargent County 5. (Frye, Thomasson). MINNESOTA - Small numbers of adults continue to be taken in light traps; counts much lower this season and reflected in lower field infestations. Infested plants per 100 by district as follows: Southwest 16, west central 6, southeast 3, central less than 1. Average of 1 egg mass per 100 plants found in southwest district; no egg masses found in other districts. Egg laying extended over several weeks and will probably continue at low level. Except for an occasional field, first-generation infestation will apparently be low this year. (Minn. Ins. Rpt.). IOWA - First second-brood pupa of 1965 found at Ankeny July 9. Pupation 8 percent at Hamburg July 8. Pupation only one day behind that of 1964 in spite of cool weather. Unusually high percentage of corn will be susceptible to attack by second brood this year. Treatments should be made about August 1. (Iowa Ins. Inf., July 12). NEBRASKA - Infestation ranged 50-60 percent in field of sorghum in Lancaster County and 5-40 percent in corn in Otoe County. (Rhine). MISSOURI - Pupation 50 percent in Carroll County and 30 percent in Atchison County. First second-generation egg mass found north of Missouri River observed in Carroll County July 13. Emergence of first-generation adults in Atchison County began by July 14. (Houser, Munson). Egg laying continues in Pemiscot County, with first and second instars present. (Keaster). ILLINOIS - Survey in west district of corn ranging from late whorl to pollination, showed 0-28 (average 7.9) percent of plants infested with 0-2 (average 0.8) borers per infested plant; 22 percent of borers in fourth instar, 74.1 percent fifth instar, 3.7 percent pupae. In corn ranging from early tassel to pollination in west-southwest district, 4-14 (average 9.5) percent of plants infested with 0-2.5 (average 1.1) borers per infested plant; 11.8 percent of borers in fourth instar, 58.8 percent fifth instar and 29.4 percent pupae. (Ill. Ins. Rpt.).

INDIANA - Infestations ranged medium to heavy in corn in southernmost counties; pupation underway. (Everly, Saugstad). Infestations scattered and light in northern two-thirds of State. Heaviest infestations 20-30 percent; larvae in third and fourth stages. (Huber, White). MICHIGAN - Large fifth-stage larvae, about to pupate, observed July 14 in large corn in Washtenaw County; no pupae found. Only small numbers of spring-brood adults taken at blacklight traps. (Ruppel, Newman). OHIO - Infestation of field corn reported at Eaton, Preble County; less than 50 percent of corn infested. (Pettys, Blair). Moth emergence and egg laying completed in Wayne County; larvae up to fourth instar observed. (Barry). MARYLAND - Medium numbers of second-generation moths taken steadily in light traps in Queen Annes and Worcester Connties. (U. Md., Ent. Dept.). DELAWARE - Second adult flight of season began July 9 in Sussex County. (Burbutis, Woodall). NEW YORK - Peak adult emergence from June brood expected by late July in Hudson Valley. (N.Y. Wkly. Rpt.).

CORN EARWORM (Heliothis zea) - MARYLAND - Light to medium ear infestations occurring in early corn on lower Eastern Shore. (U. Md., Ent. Dept.). WISCONSIN - Small larvae common in at least 2 separate fields of fresh-market sweet corn; 20 percent of ears infested in one field, 30 percent infested in other field. Adults taken in blacklight traps somewhat more plentiful than normal; more problems may develop on midseason sweet corn than in last few years. (Wis. Ins. Sur.). IOWA - Infested 100 percent of early planting of sweet corn at Ankeny. (Iowa Ins. Inf., July 12). NEBRASKA - Populations high in early sweet corn. (Roselle). KANSAS - Few found in whorls of corn in Wabaunsee County. (Simpson, July 8). Infestation 100 percent in corn just beginning to tassel in northeast area; larvae ranged 1-4 per ear and found in whorls with extensive damage noted. (Eshbaugh). Similar condition found in east central district. (Simpson). ARIZONA - Heavy populations continue to appear in sweet and field corn approaching roasting-ear stage. (Ariz. Coop. Sur.). TEXAS - Averaged 5-6 larvae per head on grain sorghum in Mitchell County. (Deutsch, Hoover). ALABAMA - Heavy on sweet corn and early field corn throughout Bibb County; pupation expected soon. (Odom).

ARMYWORM (Pseudaletia unipuncta) - NEBRASKA - Larvae heavy in oats and rank vegetation in Scotts Bluff County. (Hill). INDIANA - Adult catches in light traps throughout State ranged 34-299 for week ending July 9. In general, adult populations decreasing in southern areas, but still very abundant in northern sections. (Huber). NEW HAMPSHIRE - Occasional larva found in corn in Hillsboro County July 8. (Sutherland).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Larvae feeding on terminals and causing heavy damage to grain sorghum in Jackson, Washita and Logan Counties. (Okla. Coop. Sur.). KANSAS - Reported in corn in Saline County. Damage estimated at 1 percent. (Brooks, July 8). Present in most whorls of sweet corn (12 inches high to silking) examined in northeast district; fields appeared very ragged. (Eshbaugh).

BLACK CUTWORM (Agrotis ipsilon) - IOWA - In Shelby County, 1 percent of corn plants (20 inches high) cut off just below ground surface; plants similarly damaged in Clayton County. Pupation underway 7-10 days; light trap catches indicate moth activity increasing. Still active in replant corn in Ringgold County; tunnelling in stalks. (Iowa Ins. Inf., July 12). WISCONSIN - Peak flight probably occurred previous week. Populations appear about same as those of 1964. (Wis. Ins. Sur.). NEVADA - Larvae destroyed 60 percent of 70-acre field of alfalfa in Lovelock, Pershing County. (Arnett).

STALK BORER (Papaipema nebris) - NORTH DAKOTA - Some larval feeding on corn observed in southeast. (Gage). NEBRASKA - Light in field margins of corn in Johnson and Otoe Counties. (Rhine). IOWA - Causing some concern in corn in Audubon County; loss ranged 15-20 percent in one field. (Iowa Ins. Inf., July 12). MINNESOTA - Caused white heads to appear in wheat and oats in southern half of State. (Minn. Ins. Rpt.). NEW HAMPSHIRE - Ragging leaves and present in stalks of corn in southern part of State; light damage noted on field margins July 9-14. (Mason, Sutherland).

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Moderate, local infestations observed on grain sorghum in Fort Bend County. (Texas Coop. Rpt., Sparks).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ILLINOIS - Larvae reported feeding on silks of as much as 10 percent of corn plants in Decatur-Springfield area. (Ill. Ins. Rpt.). ARIZONA - First larvae of season noted in field of alfalfa in Graham County; larvae about one-third grown. (Ariz. Coop. Sur.).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - NEW YORK - Damaging corn in Wyoming and Cayuga Counties; some counts exceed 20 per hill. Controls recommended. (N.Y. Wkly. Rpt., July 12). OHIO - First adults of season collected from corn near New Knoxville, Auglaize County; not numerous. Det. by B. Blair. (Rose). MICHIGAN - Population in Washtenaw County research field approximately 50 percent late-stage larvae and 50 percent pupae. Severe larval injury to roots occurred in this field. (Ruppel, Wells). INDIANA - Few adults present in suction and light trap collections in Floyd, Franklin, Parke and Wells Counties. (Huber, Saugstad). WISCONSIN - Most in pupal stage; few adults noted in soil. (Wis. Ins. Sur.).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Diabrotica spp. caused extensive root damage to corn in some fields in Clay and Hamilton Counties; some fields severely damaged, mainly by D. virgifera (western corn rootworm). Roots almost entirely destroyed with some lodging occurring. Adults emerging throughout State; mostly D. virgifera, but some D. undecimpunctata howardi (southern corn rootworm) noted. D. longicornis (northern corn rootworm) adults predominate in one field in Johnson County. (Rhine). KANSAS - Few adults of D. longicornis and D. undecimpunctata howardi noted in corn in east central area week ending July 8; no damage observed. D. virgifera adults emerging in Rush County. Late-stage larvae and pupae also observed; ranged 10-15 per plant in west central and southwest districts. (DePew). D. undecimpunctata howardi and D. longicornis adults averaged 2-3 per plant in northeast district; considerable feeding on silks noted.

Diabrotica undecimpunctata howardi adults ranged 30-40 per 100 sweeps in northeast district alfalfa. (Simpson). MISSOURI - D. virgifera adult emergence 40 percent complete July 14 in Atchison County; 45 percent of forms pupae or prepupae and 5 percent larvae. Damage evident in every field checked and 10-95 percent of corn plants lodged. (Musick, Munson, Houser). IOWA - Two D. longicornis adults collected at Ames July 8 and 1 D. virgifera found July 8 in Monona County. On same date, 3.5 D. virgifera per plant noted on experimental plots at Hamburg. Corn just beginning to tassel and beetles feeding on leaves. In treated field of corn, 50 Diabrotica spp. forms per plant noted July 8, but no adults; 87 larvae, 15 pupae and 1 adult of D. longicornis noted under single plant treated at planting time; averaged 25.7 per plant. At Hamburg, D. virgifera adults averaged 3.5 per plant and at Hastings, 0.5 per plant. At Portsmouth, 2 adults noted in field of corn and none noted in 3 fields at Coon Rapids. First beetle emergence expected July 12 at Denison, July 14 at Storm Lake and July 15 at Spencer. Heavy populations of Diabrotica spp. reported in corn following corn in many western counties. Larvae averaged 16-17 per plant in untreated check plot in Ida County. (Iowa Ins. Inf., July 12). MINNESOTA - Lodging by Diabrotica spp. becoming more evident as larvae continue to feed. First, second and third-stage larvae, and few pupae, can be found; larvae mostly second stage. Brace root feeding very evident in some fields. Heavy lodging reported in treated field in Nobles County. Lodging appearing in fields in Scott and Wright Counties, indicating Diabrotica spp. a problem other than in southwest district. (Minn. Ins. Rpt.).

CORN FLEA BEETLES (Chaetocnema spp.) - MARYLAND - C. pulicaria (corn flea beetle) populations continue high on corn in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). ARIZONA - C. ectypa (desert corn flea beetle) averaged 420 per 100 sweeps on sorghum in Yuma County; damage noticeable. (Ariz. Coop. Sur.).

CEREAL LEAF BEETLE (Oulema melanopa) - INDIANA - Aestivation of summer adults underway in wheat in St. Joseph and La Porte County area. Emergence of summer adults in oats reached peak in area. (Wilson, Shade). MICHIGAN - Over 80 percent of field population of beetles entered inactive period. Few continue to fly in Berrien County research fields where sizeable populations being maintained. No appreciable injury to corn or host grasses in area occurred as result of feeding by summer adults. Larval injury to oats relatively heavy earlier. (Ruppel, Turner).

JAPANESE BEETLE (Popillia japonica) - INDIANA - Adult emergence in Kentland area, Newton County, increasing; reaching economic levels. (Gould, Lehker). MARYLAND - Adults feeding heavily on corn silks in several fields in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.). DELAWARE - Adults very abundant on corn and soybeans in several areas; causing rather heavy injury in some fields of soybeans and to silks of corn. (Burbutis, Woodall). NEW HAMPSHIRE - Adults feeding on leaves of corn in weedy field at Walpole, Cheshire County. (Sutherland).

WHEAT WIREWORM (Agriotes mancus) - NEW YORK - Damaging stands of field corn in Sullivan and Tompkins Counties. (N.Y. Wkly. Rpt., July 12).

A SAP BEETLE (Glischrochilus quadrisignatus) - ILLINOIS - Adults attracted to marginal rows of corn infested by Blissus leucopterus (chinch bug). In east district, 0-20 or more per plant observed clustered behind leaf sheaths with B. leucopterus. (Ill. Ins. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - WISCONSIN - Populations ranged 1-100 or more per tassel on 90 percent of corn examined in southern and central areas; most aphids still in whorls. Populations very high on sorghum in a Waushara County location but relatively uncommon on corn in area. Treatment anticipated in a western county area. (Wis. Ins. Sur.). MINNESOTA - Appearing on emerging tassels of corn. (Minn. Ins. Rpt.). MICHIGAN - Colonies appearing in taller corn in number of middle and southern counties. Some Berrien County fields show 50 percent of plants with adults and nymphs on flag-leaf or tassel. On July 14, approximately 15 percent of plants in 4 Monroe County fields had colonies of 20-30 aphids per plant. Approximatley 2 percent of plants in Washtenaw field

harbored colonies on July 15. (Ruppel, Wells, Newman). OHIO - Probably this species observed on tassels of few plants of field corn in Auglaize County. Also reported on corn at Hillsboro, Highland County. (Blair, Rose). INDIANA - Infested 1-2 percent of corn examined in experimental plots in Floyd and Harrison County area; estimated populations per plant ranged 1,000-8,000. Infested up to 80 percent of corn examined in other southern areas. (Saugstad). Moderate on sorghum in one area of Tippecanoe County. (Davis). MISSOURI - Present on 100 percent of corn plants observed in north central and northwest districts; low numbers (10-20) noted on most plants, with 200-300 noted on one plant in 200. (Houser). NEBRASKA - Light on corn and sorghum throughout southern and central regions. (Rhine). KANSAS - Reported on sorghum in Lincoln County. (Brooks, July 8). Noted on tassels of field corn in Rush, Lane and Finney Counties. Infestations range light to moderate in west central and southwest districts. (DePew). Infestations reported heavy on corn in Osborne County; damage to tassels and upper leaves severe. (Simpson). OKLAHOMA - Heavy in grain sorghum checked in Logan and Washita Counties. (Okla. Coop. Sur.). TEXAS - Heavy locally on grain sorghum in Brazos County. (Meisch). ARIZONA - Caused light to medium damage to sorghum in Gila Valley and few light infestations noted in Yuma Valley, Yuma County. (Ariz. Coop. Sur.).

CORN ROOT APHID (Anuraphis maidiradicis) - MARYLAND - Causing conspicuous stunting of corn in several Frederick County fields. (U. Md., Ent. Dept.). INDIANA - Infestations decreasing in corn in Harrison and Floyd Counties; now at 33-percent level. Populations low; range 2-25 per plant. (Saugstad). IOWA - Abundant in field corn in Woodbury County; corn stunted. (Iowa Ins. Inf., July 12).

ENGLISH GRAIN APHID (Macrosiphum avenae) - IDAHO - Populations building up rapidly on heads of grain throughout Jerome County. Few dead, parasitized aphids observed. (Priest). WYOMING - Light in fields of barley in Washakie County; averaged 8-12 per linear foot of row in infested fields. (Marks). COLORADO - Winged forms moving into malting barley in Delta and Montrose Counties; colonies forming. (Jenkins). NEBRASKA - Definite buildup of grain aphids in southeastern counties evidenced by counts of up to 25 per sweep of M. avenae and Schizaphis graminum (greenbug). (Frye, Thomasson). WISCONSIN - Ranged up to 20 per sweep in oats in milk stage. Although much oats ripening in southern area, many fields of alfalfa reseeded in part and much late planting present. Red leaf symptoms present in some fields although occurred too late to be significant. (Wis. Ins. Sur.).

CHINCH BUG (Blissus leucopterus) - ILLINOIS - Mostly late-instar nymphs or adults present in east and central districts. Migration from wheat to corn nearly completed; only occasional field of wheat harboring sufficient numbers to damage corn. Populations in marginal rows of corn bordering wheat range zero to severe, with 2-3 marginal rows showing stunting or purpling in some instances. Marginal rows treated in many fields. (Ill. Ins. Rpt.). INDIANA - Adults dispersing in east central and northwest areas. (Huber). OHIO - Extremely abundant around green or vegetative plants in field of wheat near Logansville, Logan County; invading border rows of field corn. Large numbers of various stages noted in field of wheat in Putnam County; long and short winged forms observed in wheat in Delaware County. Infestation reported on field corn in Darke County. (Galford et al.). PENNSYLVANIA - Heavy on sweet corn in Montgomery County (Tetrault) and congregating at bases of plants of field corn in Bucks County (Menusan). NEW JERSEY - Activity increasing in central and northern counties. (Ins.-Dis. Newsltr.).

WHEAT STEM MAGGOT (Meromyza americana) - WISCONSIN - Infestation of 1 percent reported in wheat examined in Bayfield County. (Wis. Ins. Sur.). MINNESOTA - Caused white heads to appear in wheat and oats in southern half of State. M. americana, Mayetiola destructor (Hessian fly) and an unspecified billbug reported in field of wheat in Douglas County. (Minn. Ins. Rpt.). NORTH DAKOTA - Trace numbers of M. americana observed throughout southeastern Counties. (Frye Thomasson).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Very heavy in grain fields in Collin County. (Turney). Survey conducted in panhandle area included Randall, Swisher, Armstrong, Briscoe, Hall, Donley, Deaf Smith and Castro Counties; only few adults emerged from Johnsongrass head samples collected in Parmer and Hall Counties. Infestations not expected to be of significance in panhandle area north of State Route 86 this season. In south plains area, populations about same as in 1964, but more general in distribution. Populations not sufficiently significant to cause grower concern. (Rummel, Harding, Daniels). NEW MEXICO - Appearing in grain sorghum in Lea County; averaged 1 adult per 50 sweeps. Also found in Johnsongrass. (Coppock).

WHEAT STEM SAWFLY (Cephus cinctus) - OHIO - Numerous broken stems with larvae, probably this species, in basal sections common in uncut fields of wheat in Logan, Putnam and Sandusky Counties. Although damage difficult to determine, 3-4 percent of wheat down in some fields. Observations in other northwestern counties indicated sawflies widespread but not severely damaging. (Rose). Additional occurrence in wheat stems in same general section reported in Delaware and Hardin Counties. (Galford, Klingler, Blair).

A SAWFLY (Pachynematus sp.) - WASHINGTON - Probably P. sporax causing slight damage to wheat in Walla Walla area, Walla Walla County. (Landis).

GRASSHOPPERS - OREGON - Damaging populations, probably Camnula pellucida (clear-winged grasshopper), moving from rangeland into alfalfa in Baker County; controls necessary to prevent serious losses at Huntington, Durkee and Halfway. Total of 35,000 acres involved. (Wright). Controls applied to 850 acres in Dead Indian Plateau area near Ashland, Jackson County, on July 15. (Larson). NEVADA - Mostly Melanoplus sanguinipes (migratory grasshopper), M. cinereus and Oedaleonotus enigma varied 5-20 per square yard on 15,000 acres of rangeland in Goshute Mountains in southern Elko and northern White Pine Counties. In Spring Valley area of White Pine County, these same species averaged 5-6 per square yard on 10,000 acres of rangeland. North of Baker, White Pine County, M. bivittatus (two-striped grasshopper) and M. sanguinipes numerous in alfalfa. (Maloney). UTAH - Moderate numbers present in few Washington County areas (Huber, Knowlton); particularly numerous in Hanksville-Caineville area in eastern Wayne County (Chapman, Knowlton). Adults of Aulocara elliotti, M. sanguinipes, Trimerotropis sp. and M. bivittatus common in some meadow areas at various localities; C. pellucida spotty in these areas. In Box Elder County, grasshoppers ranged 15-50 per square yard in South Blue Creek area; numerous and spotty in Little Pacatello and at Rattlesnake; ranged 50-200 per square yard in 250 acres of alfalfa 10 miles west of Snowville and causing serious defoliation. Eggs still hatching; development ranged from nymphs to 2 percent winged; A. elliotti, M. sanguinipes and Trimerotropis sp. dominant species. Several thousand California gulls and some large hawks feeding on grasshoppers in field west of Snowville. (Knowlton).

NEW MEXICO - Grasshoppers, mostly adults, ranged 3-5 per square yard on approximately 15,000 acres in Lea County. Small, lightly infested areas found in vicinities of Dora, Elida and Tolar, Roosevelt County; light infestation found near Broadview and Melrose, Curry County. Grasshoppers averaged 3-5 per square yard in areas east of Tucumcari and northeast of Nara Visa, Quay County. In Union County, 2 light infestations found; one on an estimated 5,000 acres 4 miles north of Moses and one on approximately 2,500 acres near Ione. Rangeland infestation on approximately 1,500 acres found in southwestern San Juan and northwestern McKinley Counties on Navajo Indian Reservation and extending across State line; ranged 25-30 per square yard; mostly adults. (PPC, N.M. Dept. Agr.). Grasshopper nymphs ranged 10-25 per 25 sweeps in alfalfa near Belen, Valencia County. (Heninger). OKLAHOMA - Grasshoppers moderate to heavy on rangeland and in most crops in Bryan, Murray, Greer, Cleveland and Mayes Counties. (Okla. Coop. Sur.). KANSAS - Grasshoppers generally very low on rangeland in west central area; average 1-2 per square yard. Drepanopterna femoratum, Ageneotettix deorum, Opeia obscura, Amphitornus coloradus and Cordillacris crenulata dominant

species in Wallace, Greeley, Wichita, Scott, Lane, Ness and Rush Counties. (Brusven, Campbell, Lamley, July 8). Local grasshopper population of 20 per square yard noted in western Barber County. Similar population reported in same area in June 1964. (Brusven, July 8). Generally light in northeast district. Local populations ranged up to 8 per square yard. (Simpson). NEBRASKA - Unspecified grasshoppers range 5-10 per square yard in some areas of Clay and Hamilton Counties; numbers increasing in central areas of State. (Rhine). NORTH DAKOTA - Some crop damage by grasshoppers reported in Golden Valley County; some controls being applied. (Colberg). MINNESOTA - Scattered, localized infestations found in southern half of State. Melanoplus femurrubrum (red-legged grasshopper) nymphs (first to third instar) averaged 2-3 per square yard in alfalfa and roadsides in southwest; few high counts found in alfalfa in district as follows: Redwood County, 20-25 per square yard; Rock County 30-35 per square yard; Pipestone County, 10-12 per square yard. Counts generally low in south central district, with widely scattered fields and roadsides having counts of 8-10 per square yard. Few adult M. bivittatus observed in southwest, south central and central districts, but mostly fourth instar. In west central district, grasshoppers becoming more evident, especially in roadsides in Chippewa, Swift and Douglas Counties; M. femurrubrum nymphs (first and second instars) up to 35 per square yard found. In northwest, grasshopper counts continue very low; approximately half of grasshoppers found were slant-faced species and noted only in noncrop, grassy areas in low numbers. Little or no grasshopper mortality noted after heavy rains of past 2 weeks. (Minn. Ins. Rpt.). WISCONSIN - Grasshopper numbers appear somewhat lower than at same time in 1964. Most nymphs of M. femurrubrum in third and fourth instars, although few first and fifth instars present. M. sanguinipes females forming eggs in more advanced areas of State; averaged 15 per square yard in field of oats in Spring Green area. Many nymphs in late instars. M. bivittatus adults common on marginal rows of snap beans at a Waushara County location; females devoid of eggs. (Wis. Ins. Sur.). ILLINOIS - Nymphs of Melanoplus sp. varied 20-130 per 100 sweeps in clover and alfalfa in east, central and west districts. (Ill. Ins. Rpt.). INDIANA - Unspecified nymphs ranged 5-8 per 10 sweeps in alfalfa in southernmost areas. (Saugstad).

EUROPEAN CHAFER (Amphimallon majalis) - OHIO - Three adults collected in black-light trap near railroad right-of-way in Cleveland, Cuyahoga County, June 28. Det. by O. L. Cartwright. This is a new State record. (Porter).

WESTERN TUSSOCK MOTH (Hemerocampa vetusta) - NEVADA - Larvae heavy on bitterbrush (Purshia tridentata) in Washoe Valley, Washoe County; migrating and causing some damage to other plants. (Christner).

SOD WEBWORMS - UTAH - Damaging lawn at Smithfield, Cache County. (Burtenshaw, Knowlton). NEW JERSEY - Damage increasing. (Ins.-Dis. Newsltr.).

A SKIPPER - TEXAS - Heavy local infestations, probably Hylephila sp., reported in Coastal Bermuda grass in Henderson, Leon and Travis Counties. (Texas Coop. Rpt., Meisch).

YELLOW SUGARCANE APHID (Sipha flava) - VIRGINIA - Infested orchard grass at Stage Junction, Fluvanna County, July 10; caused estimated 50-percent loss of crop. Det. by L. M. Russell. (Freund).

PEA APHID (Acyrthosiphon pisum) - INDIANA - Ranged 3-4 per 10 sweeps in alfalfa in southernmost areas. (Saugstad). Ranged 8-10 per sweep in central third of State (White) and 6-12 per sweep in northern third of State where some fields had average of 20 per sweep (Huber). ILLINOIS - Populations continue at very low levels in clover and alfalfa in east, central and west districts; ranged 20-180 per 100 sweeps. (Ill. Ins. Rpt.). WISCONSIN - Increasing rapidly; half-grown nymphs most numerous form in many fields, with parasites, predators and disease not very noticeable. Populations per sweep in alfalfa, by county, as follows: Western Dane 50, Columbia 30, Washington 10, Marquette 10, Jefferson 5, Racine-Kenosha 5, Walworth 3, Dodge 2. (Wis. Ins. Sur.). MINNESOTA - Counts per 100 sweeps on alfalfa, by district, as follows: South central 10,154, southwest

3,080, west central 450. Predator counts remain low. (Minn. Ins. Rpt.). NORTH DAKOTA - Ranged up to 25 per sweep in alfalfa in southeastern counties. (Frye, Thomasson). NEBRASKA - Population low in Johnson County; averaged less than 50 per 10 sweeps. Lady beetles numerous. (Rhine). KANSAS - Averaged 10 per 10 sweeps in Morris and Wabaunsee Counties week ending July 8. Ranged 500-1,000 per 100 sweeps in alfalfa in northeast district. (Simpson). WYOMING - Adults and nymphs ranged 300-1,000 (average 685) per 100 sweeps in alfalfa in Washakie, Hot Springs and Fremont Counties; these counts indicate slight decrease in numbers. (Marks). COLORADO - Continues to be reported on alfalfa in Weld County; lady beetles and syrphid fly larvae noticeably increased in numbers. (Urano, Jenkins). Acyrthosiphon pisum increased from 1,000 to 9,000 per 100 sweeps in alfalfa in Mesa County; populations moderate in Delta and Montrose Counties. (Bulla). Counts very high on alfalfa in Fort Collins area, Larimer County; average 200 per sweep. Controls applied. (Hantsbarger). NEW MEXICO - Light to very light in alfalfa in Los Lunas-Belen area, Valencia County. (Heninger). ARIZONA - Averaged approximately 200 per 100 sweeps in Yuma County alfalfa. (Ariz. Coop. Sur.). NEVADA - Ranged 20-30 per sweep in alfalfa seed fields in Reese River, Lander County. (Lundahl). WASHINGTON - All stages ranged 0.5-16 (average 6) per sweep on 12-inch high forage alfalfa at Ellensburg, Kittitas County; ranged from 5 to excess of 200 (average 75) per sweep on forage alfalfa from Quincy to Othello and southward in Columbia Basin. (Halfhill).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Populations increased markedly; counts as high as 60 per sweep in alfalfa noted in few fields in western Dane County. Winged forms comprise 5 percent of population in some instances. (Wis. Ins. Sur.). ILLINOIS - Low numbers (0-40 per 100 sweeps) found in east district alfalfa. (Ill. Ins. Rpt.). OKLAHOMA - Increasing in many areas. Moderate to heavy on alfalfa in Harmon, Caddo, Grady, Lincoln and Payne Counties; ranged 185-2,000 per 10 sweeps. Spraying underway in Payne County. Light (2-35 per 10 sweeps) in Kiowa County; light but increasing in Noble County. (Okla. Coop. Sur.). NEW MEXICO - Light to moderate in Valencia County alfalfa near Belen and Los Lunas. (Heninger). ARIZONA - Buildups apparent in alfalfa in several Graham County fields since start of summer rains. Ranged 120-700 per 100 sweeps in Yuma County alfalfa. (Ariz. Coop. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - MARYLAND - Heavy numbers noted on red clover in Talbot County. (U. Md., Ent. Dept.). OHIO - Most numerous species of plant bug in alfalfa in western area; 27 adults and many more nymphs taken per 25 sweeps in one field in Mercer County. (Rose). ILLINOIS - Adults varied 0-40 (average 10) per 100 sweeps in soybeans and 10-40 per 100 sweeps in clover and alfalfa in east district. (Ill. Ins. Rpt.). KANSAS - Ranged 50-200 per 100 sweeps in alfalfa and clover in northeast district. (Simpson).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - INDIANA - Ranged 2-10 per sweep in alfalfa throughout State. In general, populations lightest in southern quarter and northern quarter of State; heaviest populations present in central half of State. (Huber, Saugstad, White). ILLINOIS - Adults varied 20-80 and nymphs 60-350 per 100 sweeps in clover and alfalfa in east district. (Ill. Ins. Rpt.). KANSAS - Averaged 3 per 10 sweeps in Morris and Wabaunsee Counties. (Simpson, July 8).

PLANT BUGS - NEW YORK - Adelphocoris lineolatus (alfalfa plant bug), A. rapidus (rapid plant bug) and Lygus lineolaris (tarnished plant bug) very numerous in all legumes, particularly birdsfoot trefoil. (N.Y. Wkly. Rpt., July 12). MINNESOTA - Leptopterna dolabratus (meadow plant bug) reported on timothy in Aitkin County. (Minn. Ins. Rpt.). UTAH - Populations of A. superbus (superb plant bug) above normal in some fields of seed alfalfa in Pavant and Delta-Sutherland areas of Millard County. (Knowlton).

LYGUS BUGS (Lygus spp.) - IDAHO - Marginal reinfestation of alfalfa seed fields by large populations found soon after applications of chemical treatments in southwest area. (Homan). NEVADA - Averaged 12-15 per sweep on alfalfa for seed in Reese River, Lander County. (Lundahl). UTAH - Ranged 0-9 adults and 0-16

nymphs per 10 sweeps in blooming alfalfa for seed in Deseret-Oasis and Delta-Sutherland areas of Millard County. (Knowlton). WYOMING - Adults and nymphs averaged 108 per 100 sweeps in alfalfa in Washakie, Hot Springs and Fremont Counties. (Marks). ARIZONA - Nymphal populations increased considerably in Graham County; nymphs and adults averaged 475 per 100 sweeps. Large buildup occurred in Yuma County; ranged 270-1,300 per 100 sweeps; high count noted in only one field, but generally heavy on Yuma Mesa. (Ariz. Coop. Sur.). NEW MEXICO - Ranged 10 to over 50 adults and nymphs per 25 sweeps in alfalfa checked in Belen-Los Lunas area of Valencia County. (Heninger). TEXAS - Heavy locally on alfalfa in Hudspeth County. (Neeb).

MEADOW SPITTLEBUG (Philaenus spumarius) - WISCONSIN - Damage to alfalfa reported in southern Washburn County. Nymphs present in far northern counties although reached full growth in more southerly areas. (Wis. Ins. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - VERMONT - Building up on legumes in all areas with some yellowing noticeable. Drought will compound injury. (MacCollom, July 12). NEW YORK - Occurring in greater numbers throughout State than at any time in past 10 years. Controls recommended on alfalfa. (N.Y. Wkly. Rpt., July 12). DELAWARE - Increased on soybeans in Sussex County; adults average 10 per 10 sweeps. Counts slightly lower on soybeans and alfalfa in New Castle and Kent Counties. (Burbutis, Woodall). MARYLAND - Light to medium on soybeans in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.). INDIANA - Averaged 3-4 nymphs per sweep in alfalfa in southernmost counties; adults ranged 3-5 per sweep in northern half of State. Yellowing noticeable in second-growth alfalfa throughout northern two-thirds of State. (Saugstad, Huber). ILLINOIS - In east district, adults varied 60-320 and nymphs 0-40 per 100 sweeps in soybeans and 240-640 adults and 40-60 nymphs per 100 sweeps in clover and alfalfa. (Ill. Ins. Rpt.).

LEAFHOPPERS (Empoasca spp.) - ARIZONA - Ranged 100-400 per 100 sweeps in alfalfa in Yuma County. (Ariz. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Counts increased in Gila Valley alfalfa; ranged 40-380 per 100 sweeps in Yuma County. No noticeable change in Graham County. (Ariz. Coop. Sur.). NEW MEXICO - Averaged about 1 adult per 25 sweeps in alfalfa checked near Belen, Valencia County. (Heninger). TEXAS - Light, local infestations noted on soybeans in Brazos County (Randolph); abundant on alfalfa in same county (Wipprecht).

ALFALFA WEEVIL (Hypera postica) - IDAHO - Larvae severely damaging hay and buds of second-growth alfalfa in Fairfield area; many fields being treated. (Alzola). UTAH - Damage to alfalfa unusually common in Piute County. (Chapman). Larvae continue active in some areas, with parasitism of pupae by Bathyplectes curculionis (an ichneumon) about 50 percent this season. (Davis). Damage to alfalfa much more serious in State generally than during 1964; usually severe to forage and seed alfalfa in Duchesne County. (Knowlton). WYOMING - Larval activity decreasing in alfalfa in Washakie, Hot Springs and Fremont Counties. Ranged 100-225 per 100 sweeps; pupae and newly emerged adults numerous in most fields. (Marks). COLORADO - Problem subsiding on alfalfa in Weld County; larvae very rarely detected. (Urano, Jenkins). Ranged 500-1,000 per 100 sweeps on alfalfa in San Miguel County; controls ineffective in some fields. (Haslem, Jenkins). INDIANA - Occasional adult found in alfalfa in southern half of State. (Matthew, Saugstad). NEW YORK - Adults emerging and late-stage larvae still active. Over 90 percent of larvae parasitized by Tetrastichus incertus (a eulophid) in one area near Ghent, Columbia County. This parasite is well established at release sites. (N.Y. Wkly. Rpt., July 12). VERMONT - Very few larvae left on alfalfa. (MacCollom, July 12). NEW HAMPSHIRE - Adults emerging in Sullivan County. (Sutherland).

A WEEVIL (Epicaerus formidiolosus) - FLORIDA - Moderate population defoliating soybeans planted directly after sweet corn at Santa Fe, Alachua County. (Strayer, June 30).

BLISTER BEETLES - IDAHO - Adult feeding reported causing considerable damage to alfalfa blossoms in seed fields at Horseshoe Bend and at Sweet. (Waters, Portman). NORTH DAKOTA - Up to 5 Epicauta fabricii (ash-gray blister beetle) per sweep taken in alfalfa near Wishek, McIntosh County. (Frye, Thomasson). MINNESOTA - Lytta nuttallii (Nuttall blister beetle) reported on alfalfa in Morrison County. This species rare in State. (Minn. Ins. Rpt.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ILLINOIS - Very light in soybeans in east district; ranged 0-20 per 100 sweeps. (Ill. Ins. Rpt.).

A SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - NEW MEXICO - Averaged 1-5 adults per 25 sweeps in alfalfa in Belen-Los Lunas area of Valencia County. (Heninger).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Adults and larvae causing spotty injury to soybeans in Worcester County. (U. Md., Ent. Dept.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Scattered, localized infestations of small larvae averaged 40 per 100 sweeps in Gila Valley, Yuma County. Populations continue low in Graham County; range 10-30 larvae per 100 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Averaged 1-3 larvae per 25 sweeps in alfalfa near Los Lunas, Valencia County. (Heninger). UTAH - Less numerous than normal in alfalfa in central and northern areas. (Knowlton). MINNESOTA - Reported causing light damage to soybeans in Dakota County. (Minn. Ins. Rpt.).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - CALIFORNIA - Infesting many alfalfa plantings in Fresno County. (Cal. Coop. Rpt.).

ALFALFA LOOPER (Autographa californica) - UTAH - More numerous than normal in alfalfa in Millard, Juab, Cache and Utah Counties. (Knowlton).

WEBWORMS (Loxostege spp.) - MISSOURI - Adults of L. similalis (garden webworm) emerging and pupation about complete in Carroll County. Pupation underway in Holt County. Damage to alfalfa in these counties light, with webbing evident on 5-15 percent of plants. (Houser, Thomas). UTAH - Some L. sticticalis (beet webworm) larvae noted in alfalfa in eastern and western Millard County. (Knowlton).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - ARKANSAS - Mostly second and third-stage larvae found in 3 fields of alfalfa on University farm near Fayetteville. Counts per 100 sweeps ranged 15-20 in 2 fields and 80-100 in a third field. Has been absent to very low this season in cotton and soybeans in eastern part of State where fairly numerous during late June and early July 1964. (Ark. Ins. Sur.).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Continues light in most alfalfa in Graham County; averaged 17 per 100 sweeps. (Ariz. Coop. Sur.).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Light but increasing on soybeans on lower Eastern Shore. (U. Md., Ent. Dept.).

RED-NECKED PEANUTWORM (Stegasta bosqueela) - OKLAHOMA - Averaged 10 per 100 terminals in peanuts checked in Greer County. This is first activity of 1965 season. (Okla. Coop. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Heavy and causing considerable damage to soybeans in Coffee Springs and Hartford areas of Geneva County. (Reynolds).

THRIPS - MINNESOTA - Averaged 1 adult and 1 nymph per head in barley in northwest district. (Minn. Ins. Rpt.). NEW MEXICO - Light to moderate in alfalfa in Belen-Los Lunas area, Valencia County. (Heninger). CALIFORNIA - Nymphs of Frankliniella occidentalis (western flower thrips) heavy in alfalfa in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Extremely abundant in alfalfa in many parts of Cache County. Growers concerned about transporting such large numbers from fields to home stock yards. (Knowlton, Burtenshaw).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - VERMONT - Flights dropping off rapidly. (MacCollom, July 12). CONNECTICUT - Full-grown larvae noted on unsprayed trees in New Haven. (Savos, July 12). NEW YORK - Bait trap captures dropping as spring-brood adults decrease. Summer-brood adults not yet emerging. (N.Y. Wkly. Rpt., July 12). VIRGINIA - Still active in Frederick County; continued protection recommended. (Hill, July 14). OHIO - First-generation adults emerging at Wooster, Wayne County. (Near, Rader). WISCONSIN - Most first-generation larvae pupating at Madison. (Wis. Ins. Sur.). MISSOURI - Few new entries on unsprayed apples noted in southeast section. (Wkly. Rpt. Fr. Grs., July 14). KANSAS - Peaches in Sedgwick County exceptionally free of larvae except in isolated cases of poor spray coverage. Apparently between broods. (Eshbaugh). COLORADO - Sex attractant traps in commercial apple plantings in Mesa and Delta Counties catching up to 30 second-brood adults per day. (Bulla).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - CONNECTICUT - Pupation beginning around Niantic. (Savos, July 12). NEW YORK - Second-brood adults emerging in Monroe County. (N.Y. Wkly. Rpt., July 12). MICHIGAN - Larvae noted in apple orchard in Ionia County July 7. (Klackle).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - MISSOURI - New entries into terminals noted in southeast section. (Wkly. Rpt. Fr. Grs., July 14).

PEACH TREE BORERS (Sanninoidea spp.) - OKLAHOMA - S. exitiosa (peach tree borer) reported heavy in peach trees in Seminole area, Seminole County. (Okla. Coop. Sur.). NEW MEXICO - Sanninoidea sp. larvae and pupae found at base of most peach trees checked at Valencia, Valencia County. (Heninger).

LEAF CRUMPLER (Acrobasis indigenella) - CALIFORNIA - Larvae medium to heavy locally on plum trees in Santa Ana, Orange County. (Cal. Coop. Rpt.).

ORCHARD MITES - CONNECTICUT - Populations of Panonychus ulmi (European red mite) and Tetranychus telarius (two-spotted spider mite) vary considerably; reported troublesome only around Cheshire. Egg laying increased. (Savos, July 14). NEW YORK - P. ulmi near peak in eastern section; moving out from tree centers in Orleans County. T. telarius troublesome in some orchards in Clinton County; found in orchards in Orleans County. Small numbers of Epitrimerus pyri (pear rust mite) in some orchards in Niagara County. A red species troublesome in some orchards in Clinton and Monroe Counties; building up in some orchards in Niagara County and unusually low in others. T. canadensis (four-spotted spider mite) found occasionally in orchards in Orleans County. (N.Y. Wkly. Rpt., July 12). VIRGINIA - P. ulmi and T. schoenei (Schoene spider mite) building up in apple orchards in Frederick County. (Hill, July 14). MICHIGAN - P. ulmi remains relatively low for mid-July in commercial orchards in Kent and Ionia Counties. (Klackle). MISSOURI - Populations of T. telarius and P. ulmi vary on peaches and apples, especially Red Delicious and Starking, throughout State. Control efforts unsatisfactory in some areas. Northwest section reports worst problem ever. (Wkly. Rpt. Fr. Grs., July 14). UTAH - T. mcdanieli moving into fruit trees in Davis, Box Elder and Utah County orchards. Most numerous in Davis County. E. pyri common, especially in unsprayed pear and apple orchards. (Davis, Knowlton). NEW MEXICO - Tetranychus sp. appearing in fruit orchards near Fort Sumner, De Baca County. (Peabody).

APPLE APHID (Aphis pomi) - CONNECTICUT - Controls effective, populations low in most areas. (Savos, July 14). NEW YORK - Becoming a problem on suckers and terminals in Clinton County. (N.Y. Wkly. Rpt., July 12).

GREEN PEACH APHID (Myzus persicae) - OREGON - Heavy on tips of prune branches in Marion County. (Rasmussen).

APPLE MEALYBUG (Phenacoccus aceris) - NEW HAMPSHIRE - Common in commercial orchards in Hampton Falls and Londonderry. (Conklin).

PEAR PSYLLA (Psylla pyricola) - RHODE ISLAND - Heavy on pear in Cranston, Providence County. (Mathewson). OREGON - Increased damage appearing in pear orchards in Marion County due to insecticide resistance. (Rasmussen).

POTATO LEAFHOPPER (Empoasca fabae) - PENNSYLVANIA - Caused twisting of leaves on apple trees in Dauphin County. (Menusan, July 16).

GREEN JUNE BEETLE (Cotinis nitida) - OKLAHOMA - Moderate to heavy numbers feeding on peach and pecan foliage and damaging ripening peaches and grapes in Pawnee, Noble, Payne, Mayes and Blaine Counties. (Okla. Coop. Sur.).

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - Emergence started; peak expected about end of July. Controls recommended. (MacCollom, July 12). CONNECTICUT - Adult emergence close to peak in New Haven and low in other areas. (Savos, July 14). NEW YORK - Adult emergence decreasing steadily in eastern section. Males now most numerous. First adult in cage at Keeseville, Clinton County, emerged July 2 and emergence increasing steadily; increasing but still low in Monroe County; continuing at high rate in apple orchards in Niagara County. (N.Y. Wkly. Rpt., July 12). WISCONSIN - Adults emerging in large numbers in Madison area, Dane County; total of 40 caught in 2 ammonia bait traps July 4-13. First adult in Winnebago County July 11. (Wis. Ins. Sur.). MINNESOTA - Adults emerged at Rochester July 7 and near Excelsior July 12. Controls recommended. (Minn. Ins. Rpt.).

PEAR-SLUG (Caliroa cerasi) - UTAH - First generation pupating in northern section. Damage above normal in unsprayed orchards. (Davis). Damaging cherry foliage at Brigham City, Box Elder County. (Knowlton, July 12).

ORANGE-DOG (Papilio cresphontes) - CALIFORNIA - Medium in citrus in Blythe, Riverside County. This species has become a pest in last 2 or 3 years. (Cal. Coop. Rpt.).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Infesting small citrus trees in Wellton area, Yuma County. (Ariz. Coop. Sur.).

A PINK CITRUS RUST MITE (Aculus pelekassi) - FLORIDA - Adults scattered and moderately damaging leaves of sweet orange in nursery at Wimauma, Hillsborough County. (Simmons, June 22).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Larvae and adults continue abundant in Miami area, Dade County, especially at Miami Springs. Larvae found in balsam-apple (Momordica balsamina). Ratio of females to males is 3 to 1 among adults found. (Fla. Coop. Sur.).

AN ARMORED SCALE (Aspidiotus lataniae) - CALIFORNIA - Locally heavy on loquat trees in San Diego, San Diego County. (Cal. Coop. Rpt.).

PECAN CARPENTERWORM (Cossula magnifica) - ALABAMA - Considerable infestation of larvae on pecan trees throughout Geneva County. (Smith).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Heavy first generation caused heavy drop of pecan nuts in Bullock County orchard. (Stone, Ledbetter). OKLAHOMA - Causing pecans to fall in Tulsa County. (Okla. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - ALABAMA - Present but light on pecan trees in most areas. Lighter and less damaging than in last 2 or 3 years. (MacCabe et al.). OKLAHOMA - Webs becoming numerous on pecan and many other trees in eastern two-thirds of State. (Okla. Coop. Sur.).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Adult emergence begun in southeast section and in Payne County. Larvae still present should pupate soon. (Okla. Coop. Sur.).

APHIDS - ALABAMA - Yellow species increasing generally on pecans throughout Bullock County. Heavy and widespread in Mobile County. (Stone, Ledbetter, Deakle). UTAH - Still making pecan trees sticky in "Dixie" area, Washington County. (Knowlton, Huber, July 12). CALIFORNIA - Monellia costalis (black-margined aphid) adults medium on pecan trees in Clovis, Fresno County. (Cal. Coop. Rpt.). OREGON - Chromaphis juglandicola (walnut aphid) heavy in walnut orchards in Lane County. (Hatch).

SAWFLIES - OKLAHOMA - Adults reported around pecan trees in CEIR 15(20):480 determined as Periclista caryicola. Larvae reported on pecan trees in CEIR 15(19): 447 determined as Megaxyela langstroni. M. langstroni also collected in Marshall and Oklahoma Counties. Determinations by D. R. Smith. (Okla. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Medium in traps locally in San Diego County. (Cal. Coop. Rpt.).

SPITTLEBUGS - SOUTH CAROLINA - Heaviest outbreak in years on pecans in coastal areas. Some trees shed 90 percent of nuts in Darlington County. Numerous in Orangeburg County. (Nettles et al., July 13). ALABAMA - Clastoptera achatina (pecan spittlebug) nymphs heavy in pecan orchard in Lee County; controls necessary. Lesser numbers on pecans in Bibb County. (Ledbetter, Odom, et al.).

BLACK-HEADED FIREWORM (Rhopobota naevana) - NEW JERSEY - Activity in cranberry bogs at peak. (Ins.-Dis. Newsltr.).

LEAF ROLLER MOTHS (Sparganothis spp.) - NEW JERSEY - Activity in cranberry bogs at peak. (Ins.-Dis. Newsltr.).

EIGHT-SPOTTED FORESTER (Alypia octomaculata) - IOWA - Larvae feeding on grapes at Ames. (Iowa Ins. Inf., July 13).

JAPANESE BEETLE (Popillia japonica) - NEW YORK - Feeding on grapes at Farmingdale, Nassau County. (N.Y. Wkly. Rpt., July 12). SOUTH CAROLINA - More numerous and destructive to leaves of grapes and apple. Feeding on plums and causing excessive rot. (Nettles et al., July 5).

GRAPE LEAF SKELETONIZERS (Harrisina spp.) - FLORIDA - H. americana (grape leaf skeletonizer) larvae severely damaging leaves of Lake Emerald grape at Gainesville, Alachua County. (Mead, July 11). ARIZONA - H. brillians (western grape leaf skeletonizer) light to medium and skeletonizing many backyard grapevines in Graham County. (Ariz. Coop. Sur.).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - RHODE ISLAND - Adults of new generation present in fields in Kingston area, Washington County. (Kerr). DELAWARE - Adults and eggs on potatoes and tomatoes in New Castle and Kent Counties. Larvae and adults abundant on tomatoes in an area of Sussex County. (Burbutis, Woodall). MARYLAND - Continues to damage potatoes, tomatoes and egg plant on Eastern Shore. (U. Md., Ent. Dept.). NORTH DAKOTA - Moderate to heavy in south half of Walsh County; light to moderate in Grand Forks County. (Schulz). IDAHO - Populations in southwest exceed those of past 3 years. Heavy in potatoes at Caldwell. (Thornton, Homan). UTAH - Unusually numerous and damaging potatoes in Cache Valley and on Rose Ranch and at Snowville, Box Elder County. (Knowlton, Burtenshaw).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Medium to heavy on eggplant, peppers and tomatoes near Wye Mills, Queen Annes County. (U. Md., Ent. Dept.).

TUBER FLEA BEETLE (Epitrix tuberis) - COLORADO - Numbers very high on potatoes in Fort Lupton area, Weld County. (Urano).

CABBAGE LOOPER (Trichoplusia ni) - MARYLAND - Light in several commercial tomato fields in Worchester County. (U. Md., Ent. Dept.). UTAH - More damaging than normal in gardens in northern section. (Davis, Knowlton). NEVADA - Larvae medium to heavy on potato foliage in Moser Valley, light in Smith Valley, Lyon County (Martinelli); medium to heavy in Reno-Sparks area, Washoe County (Gardella). WASHINGTON - Severely damaging head lettuce near Port Angeles, Clallam County. (Breakey).

TOMATO HORNWORM (Protoparce quinquemaculata) - UTAH - Populations well above normal and damaging tomato foliage in several locations in Washington County. (Knowlton, Huber, July 12).

LEAF MINERS - ALABAMA - Infestation of unspecified species, most severe yet observed, present in planting of 8,000 tomato plants in greenhouse in Cherokee County. (Young, et al.).

APHIDS - RHODE ISLAND - Heavy on tomatoes in Cranston, Providence County. (Mathewson). DELAWARE - Macrosiphum euphorbiae (potato aphid) abundant on some tomatoes in New Castle County. (Burbutis, Woodall). MARYLAND - M. euphorbiae colonies conspicuous in several commercial tomato fields in Worchester County. (U. Md., Ent. Dept.). COLORADO - Unspecified species ranged 0-300 per leaf on potatoes in Weld County. (Urano). IDAHO - Myzus persicae (green peach aphid) general and abundant in potato fields adjacent to orchards in Canyon County. (Homan, Thornton).

Aphids on Potatoes in Maine - Populations still small but continue to increase on untreated potatoes in Presque Isle area, Aroostook County. Total of 17 percent of plants infested with average of 0.36 aphid per plant, on basis of 3 whole leaves per plant. Percent infested plants more than double and aphids nearly 3 times as numerous as last week. Population growth expected to decrease due to weather and infection of entomogenous fungi. Macrosiphum euphorbiae (potato aphid) predominates followed by Myzus persicae (green peach aphid) and Aphis nasturtii (buckthorn aphid). (Shands et al.).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Adults range 1-100 per 100 sweeps in most potato fields in southern Weld County. Controls used in most fields. Counts low on potatoes in San Luis Valley. (Urano).

WHITEFLIES - ALABAMA - Nymphs and adults severely damaging 8,000 tomato plants in Cherokee County greenhouse. (Young et al.).

POTATO LEAFHOPPER (Empoasca fabae) - NEW JERSEY - counts ranged 90-4,800 (average 900) per 25/sweeps in 10 fields in central section on July 16. (Ins.-Dis. Newsltr.). DELAWARE - Increase continues on untreated lima beans in Kent and Sussex Counties. (Burbutis, Woodall). MARYLAND - Medium to heavy on unprotected snap and lima beans

in all sections. Infesting garden squash at Wye Mills, Queen Annes County. (U. Md. Ent. Dept.). WISCONSIN - In central section, populations unusually high on peppers, potatoes and snap beans where systemics not used. Adults as high as 3-4 per plant and nymphs as high as 3 per leaf on some snap bean plantings. Adults noted on carrots and beets in Jefferson and Racine Counties. (Wis. Ins. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Heavy on garden snap beans at several places in Caroline and Talbot Counties. Medium on garden limas in Queen Annes County. (U. Md., Ent. Dept.). MICHIGAN - Adults and first-generation larvae reported from some fields in Eaton, Ingham and Montcalm Counties. (Lott, Johnson). COLORADO - Adults and eggs low in most bean fields on Western Slope with occasional moderately heavy infestation. Trace numbers of larvae in Wells and Larimer Counties. (Bulla, Urano, Jenkins). UTAH - Reports of damage to home gardens increasing in central and northern sections. (Knowlton).

PALE-STRIPED FLEA BEETLE (Systena blanda) - MARYLAND - Heavy on large garden planting of limas in Queen Annes County. (U. Md., Ent. Dept.).

A BEAN WEEVIL (Zabrotes subfasciatus) - CALIFORNIA - A single adult collected from cotton at Blythe, Riverside County, on May 11, 1965. This bruchid is known in the United States only from Texas. The species is native to Mexico and Central America, but also occurs in Puerto Rico, Cuba and South America. Beans and peas, both in the field and in storage, are attacked. This bruchid is equally, if not more destructive than Acanthosceledes obtectus (bean weevil). Z. subfasciatus breeds in the field and in storage, depositing great numbers of whitish eggs on the surface of beans. Breeding is continuous in dried beans in storage. (Harper, Blanc).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Heavy and damaging field peas in Coffee Springs and Hartford areas, Geneva County. (Reynolds).

ARMY CUTWORM (Chorizagrotis auxiliaris) - COLORADO - Control necessary on pinto beans in Dolores County. (Hantsbarger).

GREEN CLOVERWORM (Plathypena scabra) - MICHIGAN - First general flight of season evident from blacklight trap catches of July 9-11. Increased adult activity expected during next 2 weeks if normal temperatures prevail. Larval field problems if any, not expected to develop before late July. (Newman).

PEA APHID (Acyrthosiphon pisum) - WISCONSIN - Pppulations very sporadic on peas. Treatment underway in Dane and Columbia Counties. Counts per 10 sweeps as follows by county: Dane 5-40, Walworth 10-25, Columbia 3-75, Dodge 5-15, Jefferson 5-18, Washington 3-18. (Wis. Ins. Sur.).

BEAN APHID (Aphis fabae) - OREGON - Heavy populations appearing on beans in Lane County. (Hatch). COLORADO - Heavy on sugar beets in La Salle and Gilcrest area, Weld County. (Urano, Jenkins). MARYLAND - Light to medium on garden lima beans near Wye Mills, Queen Annes County. (U. Md., Ent. Dept.).

SUGAR-BEET CROWN BORER (Hulstia undulatella) - CALIFORNIA - Larvae medium in sugar beets in Arbuckle, Colusa County. (Cal. Coop. Rpt.).

SPINACH LEAF MINER (Pegomya hyoscyami) - WYOMING - Larvae numerous in sugar beet leaves in Washakie, Hot Springs and Fremont Counties. (Marks).

STRIPED FLEA BEETLE (Phyllotreta striolata) - NEW YORK - Feeding heavily in some sugar beets in Yates County. (N. Y. Wkly. Rpt., July 12). MARYLAND - Adults conspicuous on garden squash in Queen Annes County. (U. Md., Ent. Dept.).

STRIPED CUCUMBER BEETLE (Acalymma vittatum) - DELAWARE - Adults abundant on summer squash in Kent County. (Burbutis, Woodall).

SQUASH BUG (Anasa tristis) - OKLAHOMA - Heavy on most vine crops in Pontotoc and Murray Counties. (Okla. Coop. Sur.).

GRANULATE CUTWORM (Feltia subterranea) - ALABAMA - Unusually heavy larval populations, apparently this species, completely destroyed 8 acres of watermelon vines near Verbena, Chilton County. (Owen). Lesser numbers attacking seedlings in gardens and fields in Lee and Macon Counties. (Barwood).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Probably this psecies severely damaging new plantings of lettuce, beets, cabbage and carrots in Lane County. (Hatch).

CABBAGE MAGGOT (Hylemya brassicae) - PENNSYLVANIA - Severe on turnips in Bucks County. (Tetrault, July 15).

HARLEQUIN BUG (Murgantia histrionica) - INDIANA - Reported heavy on broccoli in Corydon area, Harrison County. (Lehker). OKLAHOMA - Heavy in home gardens in Pontotoc and Caddo Counties. Moderate numbers damaging okra and black-eyed peas in Beaver County. (Okla. Coop. Sur.).

CABBAGE APHID (Brevicoryne brassicae) - WISCONSIN - Increasing rapidly on commercial plantings of cabbage in southeast and southern Columbia County and on broccoli in home gardens. Approximately 1-3 percent of plants now infested. (Wis. Ins. Sur.).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Damaging foliage of lettuce, Swiss chard, table beets and potatoes in gardens in Cache County. (Knowlton). IDAHO - Seriously skeletonizing garden plants in Caldwell. (Homan).

ASPARAGUS BEETLES (Crioceris spp.) - VERMONT - Still feeding in Chittenden County. (MacCollom, July 12). NEW YORK - Present in reduced numbers in Orleans County. (N. Y. Wkly. Rpt., July 12). DELAWARE - C. asparagi (asparagus beetle) and C. duodecimpunctata (spotted asparagus beetle) adults rather common on asparagus ferns in most areas. (Burbutis, Woodall).

ONION THRIPS (Thrips tabaci) - COLORADO - Built up to economic level on onions in Western Slope area; 20-30 per plant. Controls recommended. (Bulla). UTAH - Less damaging in northern section than normal. (Knowlton).

JAPANESE BEETLE (Popillia japonica) - NEW YORK - Feeding on raspberries at Syosset, Nassau County. (N.Y. Wkly. Rpt., July 12).

RASPBERRY CROWN BORER (Bembecia marginata) - OREGON - Hot weather during July made effects much more evident in caneberry fields in Marion County. (Rasmussen). CALIFORNIA - Medium locally in raspberry roots in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

SPIDER MITES - WISCONSIN - High populations over wide areas caused economic loss to some commercial strawberry plantings. Treatment recommended to prevent further loss and additional buildup. (Wis. Ins. Sur.). OKLAHOMA - Heavy and damaging vegetables, especially tomatoes, in Murray and Payne Counties. (Okla. Coop. Sur.). MARYLAND - Tetranychus sp. heavy in rhubarb planting near Wye Mills, Queen Annes County. (U. Md., Ent. Dept.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Medium in rhubarb planting at Wye Mills, Queen Annes County. (U. Md., Ent. Dept.).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Typical injury conspicuous on tobacco in St. Marys County. (U. Md., Ent. Dept.). NORTH CAROLINA - Common on tobacco and prompted treatments in some fields. (Mistic).

HORNWORMS (Protoparce spp.) - MARYLAND - Light to moderate in 16 fields of tobacco surveyed in St. Marys County. (U. Md., Ent. Dept.). NORTH CAROLINA - Very light on tobacco to date. (Mistic).

BUDWORMS (Heliothis spp.) - NORTH CAROLINA - Very light on tobacco this season. (Mistic).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Recent rains curtailed populations somewhat on tobacco, but general buildups expected. (U. Md., Ent. Dept.).

TREE CRICKETS - MARYLAND - Caused unusual conspicuous foliage injury to 8 acres of tobacco near Oakville, St. Marys County. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Punctured squares averaged 52 percent (range 34-72) in 12 untreated fields in Robeson, Scotland, Hoke and Sampson Counties. Punctured squares ranged 12-60 (average 25) percent in 9 fields treated 2-3 times and ranged 0-22 (average 7.75) in fields treated 4-6 times. (Mount). SOUTH CAROLINA - Infestations increasing rapidly in untreated fields in Florence area; oviposition by first generation approaching peak. Adult counts range 0-200 per acre in treated plots and 0-1,000 per acre in untreated plots. Larval infestation ranges 0.1-1 percent in treated plots and 54.93 percent in untreated plots. (Taft et al., July 14). Continues principal problem on cotton in eastern half of State and more of a problem in western Piedmont than in 1964. Infestations up to 50-80 percent reported. Infestation averaged 8 percent in treated fields and 41 percent in untreated fields, compared to 3 percent in treated fields and 19 percent in untreated fields in 1964. Unusual heavy emergence of first-brood weevils noted in Lee, Clarendon, Orangeburg, Aiken and Calhoun Counties; can be traced back to 10-14 days of rainy weather in June. (Cott. Ltr., July 8). TENNESSEE - Weevil activity in regularly infested portion of cotton-growing area increasing as first-generation weevils reach peak emergence. Infestation expected to become more general in southern counties. Infestations vary from field to field because of showers. Some larval mortality observed in fields than have become dry. Only few fields with infestations over 15 percent found that had not had at least one control application. Heaviest infestations found in southeast portion of cotton-growing area, including Hardin, McNairy and Hardeman Counties. Square counts in infested fields ranged 1-32 (average 12) percent punctured squares compared with 5 percent at same time in 1964. (Locke). ALABAMA - Infestations increasing generally throughout cotton-growing area. "Hatch out" in areas south of Sand Mountain somewhat general and high, especially in fields where controls have been erratic. Young weevils range 1-5 per cotton bloom in many fields. Square infestation counts increasing in more northern counties; "hatch out" just occurring and infestations continue to be reported in more isolated fields than in other parts of State. General buildup of weevil activity in State approximates conditions similar to 1962 and prior years. Excessive rains over 10-40 percent of area during past several weeks interfered with control efforts and were most favorable for larval and pupal survivals; thus, heavy "hatch out" of adults. (McQueen).

MISSISSIPPI - Punctured squares found in 32 of 36 fields examined in delta counties. Infestation averaged 4.4 percent with high of 74 percent. In many fields, particularly on heavy soils where plants not very large, larval mortality heavy in squares on ground because of hot, dry conditions. (Pfrimmer et al., July 15). Weevils increasing in most areas; growers obtaining good results where controls needed. (Young, Bennett). LOUISIANA - Infestation ranged 1-52 (average 10) percent in 77 fields in Madison Parish. Rate of fruiting slowed by dry weather and infestation increased partly because of these conditions. Total of 7 overwintered weevils recovered from 50 trap plants. (Cleveland et al., July 15). ARKANSAS - First generation continues to emerge in blooming cotton. Weevils present in 668 of 1,402 fields checked in Jefferson County although only at recommended treatment level in 25 of these fields. Controls applied to most of 100 fields checked in Conway County. (Ark. Ins. Sur.). OKLAHOMA - Punctured square counts ranged 0-15 percent in cotton checked in Tillman, Kiowa, Greer, Washita, Caddo and Grady Counties; moderate in Payne County. Infestations of 9-12 percent reported in few fields in Jackson and Tillman Counties, with few weevils seen occasionally. (Okla. Coop. Sur.).

TEXAS - Infestation about same as previously reported in McLennan and Falls Counties. Damaging infestations found in 2 of 12 treated fields and 10 of 31 untreated fields checked. Infestation ranged 0.4-21.1 (average 5.3) percent punctured squares in treated fields and ranged 0-67 (average 8.5) in untreated fields. Overall average 6.7 percent. (Cowan et al.). Damage reported as light to moderate over Rio Grande Valley with most damage occurring along Rio Grande. Light infestations present in Presidio County in trans-Pecos area. Heavy, widespread populations reported from Jackson-Wharton County area and from Washington County where counts ranged up to 82 percent in untreated fields. Scattered infestations occurring throughout Blacklands area; some fields reported with 78 percent square damage. Light to moderate infestations reported in most rolling plains counties with heavy infestations present in Wilbarger, Runnels and Hardeman Counties. Overwintered weevils reported in approximately 85 fields in area below the Caprock and also reported above the Caprock in Crosby County. First-generation weevils emerging near Spur, Dickens County. (Texas Coop. Rpt.).

BOLLWORMS (*Heliothis* spp., et al.) - NORTH CAROLINA - No problems have developed on cotton to date. (Mount). SOUTH CAROLINA - Present on cotton in all areas of State, but numbers probably below average. Infestation averaged 2 percent in treated fields and 9 percent in untreated fields. (Cott. Ltr., July 8). Field populations decreasing in Florence area but large peak populations expected within 1-2 weeks. Larval infestations ranged 0.1-1.6 percent in treated fields and 0-5 percent in untreated fields. In light trap, 5 *H. zea* (bollworm) and 1 *H. virescens* (tobacco budworm) taken. (Taft et al., July 14). TENNESSEE - Larvae and eggs ranged 0-4 per 100 terminals in western area. Infestations light in most fields; some square damage noted. This situation not expected to continue; infestations expected to increase as in past years. (Locke). ALABAMA - Infestations continue rather light over State. (McQueen). MISSISSIPPI - Infestation remains light in delta counties. Increased numbers of eggs found in occasional field; very few eggs and no larvae found in most fields. Eggs averaged 1.3 per 100 terminals in 22 of 36 fields checked, with high of 11.8. Injured squares found in 24 of 36 fields; percent damaged squares averaged 0.8, with high of 4 percent. (Pfrimmer et al., July 15). LOUISIANA - Activity remains light in Madison Parish although slight increase in number of eggs and larvae found. Damaged squares ranged 1-3 (average 1.2) percent in 34 fields; eggs averaged 2 and larvae less than 1 per 100 terminals in these fields. Total of 101 *H. zea* and 1 *H. virescens* collected in light trap. (Cleveland et al., July 15). ARKANSAS - Total of 289 *H. zea* and 2 *H. virescens* collected on sugar lines in cotton at Kelso July 8-14. Moth flight began July 1 and reached peak July 9; dropped July 12, rose July 13 and dropped sharply July 14. Of 1,402 fields scouted in Jefferson County, larvae absent in 67 percent, but eggs absent in only 32 percent of fields. Increase in eggs corresponds with moth flights from sugar lines. Only 79 of 1,402 fields showed damaged squares in excess of 2 percent; no damaged squares found in 804 fields. This indicates beneficial insects still active. (Ark. Ins. Sur.). MISSOURI - Larvae ranged 0-3 per 100 terminals in 5.7 percent of fields scouted, and eggs ranged 0-4 per 100 terminals in 6.1 percent of fields. (Jones).

OKLAHOMA - Infestations ranged 0-10 percent in most cotton in southwest area. Egg counts as high as 12 percent in some irrigated fields in Jackson County. (Okla. Coop. Sur.). TEXAS - Infestations increased in McLennan and Falls Counties. Eggs ranged 0.6-28.5 (average 12.9) and larvae ranged 0-26 (average 9.9) per 100 terminals in 13 treated fields. In 32 untreated fields, eggs averaged 14.7 and larvae 11.7 per 100 terminals. Square injury averaged 7.5 percent in 12 treated fields and 5.7 percent in 31 untreated fields. Boll injury average 10.4 percent in 11 treated fields and 8.1 percent in 29 untreated fields with maximum of 19 percent. Identification of 398 larvae showed 107 to be *H. virescens*. (Cowan et al.). Light, scattered infestations appearing in several counties including Lamb, Howard, Cochran and Dickens. Heavy populations of benefical species apparently suppressing these early infestations. Bollworm activity increased in Blacklands area, especially in southern section; many adults noted in fields and egg laying expected to intensify. Populations light in Lamar, Washington and Jackson Counties. Light, widespread populations present in Brazos River bottom area and increase in egg laying noted. Infestations increasing in trans-Pecos area. Activity light

in western section of Rio Grande Valley with picking underway in more mature fields; heavy populations damaging lush, green cotton in southwestern part of Rio Grande Valley. (Texas Coop. Rpt.). CALIFORNIA - Few larvae found in Kingsburg-Selma area of Fresno county, but not at economic levels. (Stromberg, July 8). Larvae active in Kern County, adults appearing in survey traps. Field populations very low; control not needed. (Leigh, July 8). Few eggs found in cotton in Imperial County, but larvae far below economic levels. (Campbell, July 8).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Results of limited survey of cotton blossoms in Eddy County indicate several heavy infestations; approximately 10 percent of blooms in one field infested. Infestations ranged light to moderate in other fields. (Judd, Marek). TEXAS - Infestations in cotton ranged 3-12 percent in El Paso and Pecos Counties. (Neeb).

STALK BORER (Papaipema nebris) - ALABAMA - Spotted larval infestations reported from many northern counties. Infestations rather light and spotted near fence rows and other areas where this pest usually occurs on native weeds. (Thorton et al.). TEXAS - Found occasionally in 24 fields in McLennan and Falls Counties. (Cowan et al.).

GARDEN WEBWORM (Loxostege similalis) - TEXAS - Damaging young cotton in several northern rolling plains counties (Boring) and in Washington County. (Stufflebeam).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Evident in most fields of cotton in Kern County, but control does not appear necessary in most instances. Beneficial insect activity appears adequate to keep populations in check for most growers. (Leigh, July 8).

COTTON SQUARE BORER (Strymon melinus) - TEXAS - Scattered infestations reported in cotton over widespread area of rolling plains. (Boring). CALIFORNIA - Some found in cotton in Rolinda-Kerman area of Fresno County, but not at economic levels. (Stromberg, July 8).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Appearing in cotton in Yuma Valley and eastern Yuma County. (Ariz. Coop. Sur.).

APHIDS - NORTH CAROLINA - Not a problem on cotton. (Mount). SOUTH CAROLINA - Usual scattered infestations being reported on cotton. (Cott. Newsltr., July 8). Spotty infestations observed in few cotton fields in Florence area. (Taft et al., July 14). OKLAHOMA - Light numbers of Aphis gossypii (cotton aphid) noted on cotton in Washita, Caddo, Grady and Kiowa Counties. (Okla. Coop. Sur.). CALIFORNIA - Aphid infestations have been severe in many Kern County cotton fields, but most disappeared with advent of hot weather. (Leigh, July 8).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Counts, mostly adults, increasing in Fresno County cotton. Predators appear to be holding down nymphal populations in many fields. Counts highest in Burrel-Helm area. (Stromberg, July 8). Abundant in several areas in San Joaquin Valley; controls needed. Counts per 50 sweeps ranged 4-20 in Shafter area, 2-16 in Woodville, Visalia and Traver areas; considerably less abundant on west side of county. Severe square loss evident in some fields. (Leigh, July 8). Ranged 4-19 per 50 sweeps in some cotton in Tulare Lake area of Kings County. (Burton, July 9). Counts increased slightly in Imperial County, but not of major concern at present. (Campbell, July 8). ARIZONA - Population in Graham County remains about same as previously reported; averaged 16 per 100 sweeps. Considerably more damage noticeable to squares. Averaged 44 per 100 sweeps in cotton in Yuma County; cotton adjacent to heavily infested alfalfa will be threatened when hay is cut. NEW MEXICO - Building up in cotton near Artesia, Eddy County. Several fields treated. (Campbell). TEXAS - Scattered infestations observed in cotton throughout rolling plains area. (Boring).

COTTON FLEAHOPPER (Psallus seriatus) - OKLAHOMA - Ranged 4-30 per 100 terminals in most cotton fields in southwest area and in Washita, Caddo and Grady Counties; as high as 70 per 100 terminals in occasional field. Moderate in cotton in Bryan County. (Okla. Coop. Sur.). TEXAS - Continued to decrease in McLennan and Falls Counties. Averaged 1.3 per 100 terminals in 13 treated fields and 11.6 per 100 terminals in 32 untreated fields. (Cowan et al.). Populations increased on cotton throughout high plains area; caused considerable damage to early squares. Infestations present in most rolling plains counties, being heaviest in Throckmorton, King, Baylor, Haskell and Foard Counties. Continued damaging in untreated fields in Blacklands area but remained generally light in treated fields. Light infestations reported on cotton in Lamar, Jackson, Washington, El Paso, Hudspeth and Pecos Counties; heavy in Midland County. (Texas Coop. Rpt.). ARIZONA - Averaged 28 per 100 sweeps in Graham County cotton; some increase apparent. (Ariz. Coop. Sur.).

A BLACK COTTON FLEAHOPPER (Spanogonicus albofasciatus) - NEW MEXICO - Populations building up in cotton in fields near Artesia, Eddy County; controls applied to several fields. (Campbell). ARIZONA - Averaged 15 per 100 sweeps in Graham County cotton; decrease apparent. (Ariz. Coop. Sur.).

PLANT BUGS - TENNESSEE - No apparent increase noted in western cotton-growing area, but small square damaged evident all over area. (Locke). MISSISSIPPI - Lygus lineolaris (tarnished plant bug) light in several cotton fields in delta counties with none found in majority of fields. (Pfrimmer et al., July 15). LOUISIANA - L. lineolaris light in most cotton fields in Madison Parish. Some fleahopper activity noted in young cotton. (Cleveland et al., July 15). MISSOURI - Counts of several species ranged 0-17 per 100 plants in 88 percent of cotton fields checked. (Jones).

LEAFHOPPERS - CALIFORNIA - Empoasca fabae (potato leafhopper) populations seriously damaged some fields of cotton in Navalencia area of Fresno County, but infestations apparently controlled when fields treated for lygus bugs. Leafhoppers should be watched, particularly along foothills and fields near Kings and San Joaquin Rivers. (Stromber, July 8). High leafhopper populations developed in some cotton fields in Imperial County. Control applications gave good results in several fields. (Campbell, July 8).

THRIPS - ARIZONA - Frankliniella spp. population on Pima County cotton apparently diminishing; no further damage noticeable. (Ariz. Coop. Sur.).

GRASSHOPPERS - TEXAS - Caused heavy damage to cotton in field margins in Jackson County. (Wilson).

SPIDER MITES - NORTH CAROLINA - No problems have yet developed on cotton. (Mount). SOUTH CAROLINA - Usual scattered infestations being reported on cotton. (Cott. Newsltr., July 8). Spotty infestations noted in many fields in Florence area. (Taft et al., July 14). TENNESSEE - Spot infestations on increase in cotton where controls not applied. Spot controls still effective when done immediately. (Locke). ALABAMA - Few isolated, spotty infestations present in more northern counties. Controls necessary on 3 farms in Colbert County; few infestations reported on cotton in Cherokee County. (McQueen). MISSISSIPPI - Infestations continue to spread in delta counties due to hot, dry conditions. In most instances checked, Tetranychus telarius (two-spotted spider mite), was species involved. (Pfrimmer et al., July 15). MISSOURI - Tetranychus spp. present in 14.4 percent of fields checked. Treatments applied on 152 acres in 31 fields. (Jones). CALIFORNIA - Spider mites increasing in abundance in some fields in Kern County. Generally, controls effective, although poor results evident in few fields. Most such instances traceable to poor coverage. (Leigh, July 8). Mites common on cotton throughout Fresno County. Nearly all fields treated at least once. Sulphur still being used in few fields with some success. (Stromberg, July 8). No problems encountered in Imperial County; populations very low. (Campbell, July 8).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Total of 778 new infestations located during June; number of spots located through June is 1,172. Infestations found in Hardin, Jasper, Liberty, Montgomery, Newton, Orange, Polk, San Augustine, San Jacinto and Tyler Counties. Control applied throughout epidemic area on private lands and National forests. In Orange County, high populations occurred early in year. (Tex. For. Pest Comm., Williamson). ALABAMA - Endemic populations in 3 districts of Talladega National Forest. GEORGIA - Low level on Tallulah and Chattooga Districts of Chattahoochee National Forest. LOUISIANA - Infestation in West Bay area of Allen Parish still active; increased from 1.27 trees per 1,000 acres in February to 2.27 in May. Few infestations, covering about 18 sections, found near Sulphur, Calcasieu Parish. MISSISSIPPI - Sharp increase in Homochitto National Forest per 1,000 acres from 2.27 trees in March to 33 in June. NORTH CAROLINA - In outbreak status in Gates and Beaufort Counties and activity continuing in Davie, Iredell, Yadkin and Forsyth Counties. Localized infestations in pitch and red pine on Wayah District of Nantahala National Forest. SOUTH CAROLINA - High level of infestation on Andrew Pickens District of Sumter National Forest. TENNESSEE - Boundaries of outbreak encompass parts of Roane, Anderson, Knox and Loudon Counties. (South. For. Pest Rptr., July).

BARK BEETLES - ALABAMA - Several localized and medium populations of Ips sp. attacking pines in localized spots in southern Fayette County. (Pitts). ARKANSAS - Single trees to groups of 2-5, and in few cases larger numbers, being killed by Ips spp. Trees under stress or injured ones expected to be attractive to beetles in drier summer months. Salvage programs underway. Dendroctonus terebrans (black turpentine beetle) activity greater than Ips spp., but pattern of infestation similar. (Ark. For. Pest Rpt., July). TEXAS - Infestations of D. terebrans on National forests in Angelina, Houston, San Augustine, Trinity and Walker Counties. Control applied. Trees killed in Cherokee County; control applied. Active infestation of Ips avulsus, I. grandicollis and I. calligraphus on 5 trees reported controlled in Rusk County. (Tex. For. Pest Comm., June; Williamson). Some mortality on loblolly pine from Ips spp. in Gregg County. (South. For. Pest Rptr., July). OKLAHOMA - D. terebrans killing isolated pines in Le Flore County; all stages present. Large numbers of I. calligraphus in dying trees. (Okla. Coop. Sur.).

WHITE-PINE CONE BEETLE (Conophthorus coniperda) - NORTH CAROLINA - Unusually abundant in vicinity of Asheville this year. Some white pine suffered nearly 100 percent loss of second year cones. (South. For. Pest Rptr., July).

A LEAF BEETLE (Glyptoscelis pubescens) - NORTH CAROLINA - A severe infestation in an orchard near Murphy during April and May. Virginia and white pine ramets damaged; in some cases as many as 100 beetles on a single 18-inch ramet. (South. For. Pest Rptr., July).

PINE SAWFLIES (Neodiprion spp.) - MICHIGAN - One serious larval infestation of N. lecontei (red-headed pine sawfly) in Wexford County; infestations generally low this year. (Flink). LOUISIANA - Size of area around Georgetown, Grant Parish, and Urania, La Salle Parish, defoliated by Neodiprion sp., increased this year, but damage from defoliation less severe. NORTH CAROLINA - Infestation of N. pratti pratti in Granville, Vance and Person Counties appears to have increased over last year. (South. For. Pest Rptr., July).

JACK-PINE BUDWORM (Choristoneura pinus) - MICHIGAN - Larval feeding complete and pupae predominate in central and northern Lower Peninsula; defoliation heavy in sections of Otsego, Montmorency, Crawford, Kalkaska, Roscommon, Ogemaw, Oscoda and Gladwin Counties. Feeding primarily on new needles and browning very obvious; little tree mortality expected since feeding occurred on trees other than those defoliated in 1964. Some tree deformity expected in small jack and red pine plantations where feeding was extensive. (Flink).

WHITE-PINE WEEVIL (Pissodes strobi) - CONNECTICUT - Causing heavy damage to Christmas tree plantation at Hamden. (Johnson, July 13).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - OKLAHOMA - Heavy numbers damaging young pines in pine plantations in Pushmataha and Le Flore Counties. (Okla. Coop. Sur.). GEORGIA - Heavy on loblolly pine in central area this spring. (South. For. Pest Rptr., July).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - MICHIGAN - Larval damage this season continued downward trend which started in the late 1950's; infestation in northern Lower Peninsula not generally serious in State-owned plantations. (Flink).

PINE TIP MOTHS - ARKANSAS - Damage by second-generation larvae heavy locally. Second-generation larvae becoming full grown throughout State. Adult emergence well underway in southern areas and imminent in northern area. (Ark. For. Pest Rpt., July).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - OHIO - Larval infestation in Secor Park Arboretum at Sylvania, Lucas County. One or two pitch masses per pine tree noted. (Russell). VIRGINIA - Attacking pines locally in Newport News. (Isakson, Kelly, June 29).

A PINE NEEDLE-SHEATH MINER (Zelleria haimbachi) - CALIFORNIA - Pupae heavy on twigs of Bishop pine (Pinus muricata) nursery stock in Napa, Napa County. This is a new county record. (Cal. Coop. Rpt.).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - PENNSYLVANIA - Emerging from blue spruce in Columbia County. (Udine, July 15). COLORADO - Adults migrating from galls on spruce to Douglas-fir; three weeks later than 1964. (Thatcher). OREGON - Severe damage to 80 acres of young Douglas-firs in a tree plantation south of Oakridge, Lane County. Control necessary. (Davies).

BALSAM WOOLLY APHID (Chermes piceae) - NORTH CAROLINA - An infestation of about 400 trees detected on Roan Mountain in vicinity of Fraser fir seed production area. This is close to infestations found in 1964. TENNESSEE - A widespread infestation detected on Tennessee side of Roan Mountain. About 3,000-4,000 trees involved and scattered in isolated groups at lower edge of spruce-fir type in this area. (South. For. Pest. Rptr., July).

GYPSY MOTH (Porthetria dispar) - MASSACHUSETTS - First males of season collected July 9 in blacklight trap at East Wareham, Plymouth County. (Tomlinson). MICHIGAN - No male moths found by 20 crewmen each of whom checking about 50 traps per day. (Turner).

FALL CANKERWORM (Hyphantria cunea) - ARKANSAS - Nests common across northern area but lighter in numbers than in recent years. (Ark. For. Pest Rpt., July). MISSOURI - Continues to be most serious pest of ornamentals in Greene County. (Ashley). OKLAHOMA - Damaging many species of native deciduous trees in eastern part of State. (Okla. Coop. Sur.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - LOUISIANA - Damage not serious this year except for area north of Highway 190 and east of Atchafalaya River to West Baton Rouge Parish. Light to moderate defoliation in other scattered areas of southern part of State. (South. For. Pest Rptr., July).

AMERICAN PLUM BORER (Euzophera semifuneralis) - CALIFORNIA - Larvae heavy in maple trees in Marysville, Yuba County. (Cal. Coop. Rpt.).

WALKINGSTICK (Diapheromera femorata) - WISCONSIN - Nymphs in third stage in Menominee and Marinette Counties on June 30. Nymphs starting to change color on July 13 in Waushara County. Defoliation appearing on individual trees. (Wis. Ins. Sur.).

A LYGAEID BUG (Crophius bohemani) - CALIFORNIA - Heavy adult population on oriental plane trees in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

LEAFHOPPERS - MINNESOTA - Heavy on maples and apple stock in nursery plantings in Twin City area. (Minn. Ins. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - CALIFORNIA - Medium larval populations on elms in Escondido, San Diego County. (Cal. Coop. Rpt.). NEVADA - Untreated or improperly treated trees with moderate to heavy damage in most infested areas. (Coop. Rpt.). UTAH - Severely skeletonizing large elms in area southeast of Salt Lake City. Damage common in areas of Salt Lake, Weber and Utah Counties. (Hutchings, Knowlton, Huber). IDAHO - Larvae damaging elm leaves throughout Jerome County. (Priest). COLORADO - Moderate to serious damage to elm in Denver and Larimer Counties. (Thatcher, Daniels). NEW MEXICO - Light to moderate populations skeletonizing Chinese elms at Ponderosa, Sandoval County. (Heninger). TEXAS - Heavy infestations on elms in Mitchell and Reagan Counties and many northern counties. (Tex. Coop. Rpt.). OKLAHOMA - Moderate to heavy numbers on elms in many areas of State; all stages on most trees. Control applied in Payne County. (Okla. Coop. Sur.). ARKANSAS - Heavy infestations on Chinese elms in northwest area for several years. Heavy leaf damage throughout State during week. (Ark. Ins. Sur.). MISSISSIPPI - Second brood appearing and oviposition underway. (Young, Bennett). IOWA - Adults, larvae and pupae found in Union County. This is a new county record. (Iowa Ins. Inf., July 12). PENNSYLVANIA - On elms in Bucks County. (Menusan, July 15). NEW JERSEY - Damage quite severe to elm in central and northern counties. Although most damage is usually from first-generation larvae, this year additional injury is expected from second-generation larvae. (Ins. Dis. Newsltr.). VIRGINIA - Infesting elms locally in Blackstone, Nottoway County. (Isakson, Cassell).

ELM CALLIGRAPHA (Calligrapha scalaris) - OKLAHOMA - Moderate to heavy numbers damaging elms in Enid, Garfield County and Pawnee County. (Okla. Coop. Sur.).

LOCUST LEAF MINER (Xenochalepus dorsalis) - ARKANSAS - Caused extensive browning of foliage in northwest area. Adult emergence underway. (Ark. For. Pest Rpt., July). MISSISSIPPI - Extensive browning of leaves. (Young, Bennett).

EUROPEAN ELM SCALE (Gossyparia spuria) - PENNSYLVANIA - Very heavy on elm in Bucks County. (Tetrault, July 14). NEVADA - Heavy on elms in Elko, Elko County. Crawlers present. (DelCurto).

A PLANT BUG (Neoborus sp.) - CALIFORNIA - Heavy adult populations on Modesto ash tree nursery stock in Soquel, Santa Cruz County. (Cal. Coop. Rpt.).

MIMOSA WEBWORM (Homadaula albizziae) - ARKANSAS - Causing considerable damage. (Ark. For. Pest Rpt., July). MISSISSIPPI - Feeding for some time on mimosa leaves. (Young, Bennett).

A TORTRICID MOTH (Choristoneura houstonana) - NEBRASKA - Collected by Dale Friedemann, June 18, 1965, on juniper, at Franklin, Franklin County. Infestation heavy. This is a new State record. Det. by E. A. Heinrichs. (Roselle, Hill).

BAGWORM (Thyridopteryx ephemeraeformis) - MARYLAND - Very heavy on junipers and other favored hosts at numerous places over State. (U. Md., Ent. Dept.). ALABAMA - Extremely heavy on cedars, arborvitae and other ornamentals in Dallas, Bibb, and other counties over State. (Alsobrook, Odom). OKLAHOMA - Moderate to heavy on evergreens in south central, central, north central, northeast and east central areas. (Okla. Coop. Sur.).

A LEAF ROLLER MOTH (Platynota stultana) - CALIFORNIA - Medium populations damaging greenhouse roses in Redwood City, Imperial County. (Cal. Coop. Rpt.).

APHIDS - CALIFORNIA - Locally heavy infestations of Pterocomma smithiae on willow in park in Sebastopol, Sonoma County. (Cal. Coop. Rpt.). UTAH - Undetermined species on shade trees continue a problem in Sanpete, Duchesne, Rich, Wayne and Piute Counties. Periphyllus lyropictus (Norway maple aphid) making many roadside trees very sticky in Cache, Box Elder, Salt Lake and Utah Counties. (Knowlton).

NORTH DAKOTA - A heavy infestation of Anuraphis viburniphila (viburnum aphid) in nursery in Hankinson. (Frye, Thomasson).

COCCIDS - CALIFORNIA - Heavy adult populations of Lepidosaphes ulmi (oystershell scale) on cotoneaster shrubs in Cassel, Shasta County. Heavy adult populations of Pseudococcus obscurus on mahonia nursery stock in La Mesa, San Diego County. Phenococcus solenopsis heavy on Heliotropium curassavicum in El Centro, Imperial County. (Cal. Coop. Rpt.). MARYLAND - Neolecanium cornuparvum (magnolia scale) heavy locally on magnolia in Baltimore. (U. Md., Ent. Dept.). VIRGINIA - N. conuparvum infesting magnolia locally in Alberta, Brunswick County. (Isakson). FLORIDA - All stages of Pseudaonidia clavigera on camellia in a nursery at Tampa, Hillsborough County, July 1. (Hale).

ERIOPHYID MITES - CALIFORNIA - Heavy adult populations of Eriophyes emarginatae on Prunus subcordata in New Pine Creek, Modoc County. Medium infestations of Aceria camelliae on camellia nursery stock in La Mesa, San Diego County. (Cal. Coop. Rpt.).

SPIDER MITES (Tetranychus spp.) - IDAHO - Webbing and causing chlorotic conditions of arborvitae and other ornamentals in Caldwell. (Homan).

JAPANESE BEETLE (Popillia japonica) - MARYLAND - Feeding heavily on roses in several suburban communities and in Queen Annes County. (U. Md., Ent. Dept.).

A LEAF BEETLE (Altica sp.) - FLORIDA - Adults localized and severely damaged stem of crapemyrtle (Lagerstroemia indica) in a nursery at Winter Haven, Polk County, July 1. Almost completely defoliated all plants. (Eisenschenk).

A SPITTLEBUG (Prosapia bicincta) - KANSAS - Damaging numbers reported on redbud and other ornamentals in Riley County. (Thompson, July 8).

INSECTS AFFECTING MAN AND ANIMALS

FACE FLY (Musca autumnalis) - UTAH - Collected July 6-7 in Logan area of Cache County by W. J. Hanson and D. W. Davis. Determination confirmed by C. W. Sabrosky. This is a new State record. (Knowlton). Numerous in Malaise trap at Cold Spring, Wasatch Mountains, Cache County. (Davis, Hanson). SOUTH DAKOTA - Increased; untreated herds of Black Angus and Herefords with 12-25 flies per face in Charles Mix County. (Jones). WISCONSIN - More noticeable. A factor in lowering of milk production in one southeastern county. (Wis. Ins. Sur.). MICHIGAN - Continues at relatively low level in many Lower Peninsula counties. (Dowdy). ILLINOIS - Still very light on cattle. Populations varied 0-9 per face in east district. (Ill. Ins. Rpt.). OHIO - Counts of 29 per face on dairy cattle in Union and Logan Counties. Individuals with counts of 7-60 per face. Many small herds clustered in tight groups where they rubbed their heads against one another and on ground. Similar behavior in several herds through western area. (Rose).

HOUSE FLY (Musca domestica) - UTAH - A problem on farms and communities in Washington, Sanpete and Kane Counties. (Thornley, Knowlton). Annoying about pig pen near Ogden, Weber County, and at Corinne, Box Elder County. (Knowlton). OKLAHOMA - Averaged 35 per Scudder grid in untreated barns in Stillwater area of Payne County. (Okla. Coop. Sur.). WISCONSIN - On the increase. (Wis. Ins. Sur.).

MOSQUITOES - RHODE ISLAND - Normal seasonal complaints regarding mosquitoes from all sections of State. (Mathewson et al.). DELAWARE - Adults of Aedes sollicitans (salt-marsh mosquito) rather abundant and annoying in areas of eastern Kent County. (Burbutis, Woodall). NORTH CAROLINA - Culex pipiens quinquefasciatus and Psorophora confinnis prompting many complaints in Charlotte area. Mosquito numbers along coast generally light at present. (Ashton). WISCONSIN - Undetermined species still somewhat of a problem though decreased from earlier weeks. Populations appeared highest in northwest area. Mansonia perturbans found in Dane County. (Wis. Ins. Sur.). MINNESOTA - A total of 5,188 female mosquitoes

collected in traps operated by Metropolitan Mosquito Control District during week ending July 10. Of these, 1,187 were Aedes vexans, 1,456 Culex tarsalis and 1,520 Culiseta inornata. In larval sampling collections, A. vexans, Culex tarsalis and Culiseta inornata were taken. In both evening and daytime bite collections A. vexans was the most numerous. As of July 13, rain guages in the district had registered precipitation in excess of normal total for July. Adult mosquito population expected to increase during week of July 19. (Minn. Ins. Rpt.). WYOMING - City-wide control program begun at Thermopolis, Hot Springs County against several species of mosquitoes. (Marks). UTAH - Various species extremely troublesome in areas of Box Elder and Cache Counties. Severe in large areas of Sanpete, Duchesne and Utah Counties. One fatal case of encephalitis reported at Smithfield. (Knowlton, Thornley). TEXAS - Psorophora confinnis occurred in all traps in Jefferson County. A record catch of 4,700 P. confinnis was found in North Beaumont trap. This is considerably above the 2,000 record set in May. Aedes vexans continued to occur in Beaumont area and A. sollicitans was most prevalent in Port Arthur area. (Jeff. Co. Mosq. Cont. Dist., June Rpt.; Thompson). OKLAHOMA - Populations of unspecified species remain heavy in some northeast areas. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - NEW MEXICO - Populations averaged 215, 284, 259 and 169 flies per animal in 4 untreated herds in Valencia County and 180 per animal in Lincoln County. (Kinzer). UTAH - Troublesome throughout central area but controlled on 41,205 acres of Sanpete County where controls applied for grasshoppers. Annoying cattle in areas of Box Elder County. (Knowlton). OKLAHOMA - Populations moderate to heavy on cattle in Payne, Noble, Mayes, Cleveland and Murray Counties. Flies, probably this species, heavy on buffaloes in Comanche County. (Okla. Coop. Sur.). SOUTH DAKOTA - Found in highest numbers observed in last 3 summers in southeastern area. In untreated herds in Charles Mix County counts ranged 300-400 per side of stock and up to 10,000 per side on a few bulls. Very severe irritation caused during daylight and stock did not feed. (Kantack). ILLINOIS - Averaged 35 per animal on cattle in east district. (Ill. Ins. Rpt.). MICHIGAN - Continues at relatively low level in many Lower Peninsula counties. (Dowdy).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Populations averaged 2 per head on cattle in Payne County. (Okla. Coop. Sur.). KANSAS - Populations still high in Riley County and west central district of State. (Pitts). ILLINOIS - Is most annoying fly on cattle in east district. Averaged 4.7 per animal. (Ill. Ins. Rpt.). WISCONSIN - Most prevalent fly on cattle although some reports indicate Hypoderma lineatum (common cattle grub) to be causing more of a problem. (Wis. Ins. Sur.).

TABANIDS - UTAH - Undetermined species annoying horses and cattle in western areas of Davis, Weber and Box Elder Counties, east of Great Salt Lake. Unusually troublesome to livestock in Manti-Moroni meadow areas of Sanpete County. Becoming problem in Rich County. (Thornley, Knowlton). WYOMING - Chrysops spp. and Tabanus spp. annoying man and animals in Washakie, Hot Springs and Fremont Counties. (Marks).

A SAND FLY (Culicoides furens) - FLORIDA - Complaint of bites on individual at Tampa, Hillsborough County, in early July. (Fla. Coop. Sur.).

A FLESH FLY (Wohlfahrtia opaca) - UTAH - Larvae infested several kit mink on each of three mink farms in College Ward area of Cache County. (Knowlton).

IO MOTH (Automeris io) - OKLAHOMA - Several reports of people being stung by this species received from Osage, Payne and Washington Counties. (Okla. Coop. Sur.).

MASKED HUNTER (Reduvius personatus) - WASHINGTON - Quite common in houses, apparently attracted to lights in Pullman, Whitman County. (Telford).

LONG-NOSED CATTLE LOUSE (Linognathus vituli) - NEW MEXICO - Occasional animal noted heavily infested in Valencia and Lincoln Counties. (Kinzer).

CAT FLEA (Ctenocephalides felis) - CALIFORNIA - Heavy populations annoying people in public park, El Toro, Orange County. (Cal. Coop. Rpt.). OREGON - Probably this species annoying in many homes in Willamattee Valley during summer. (Larson). OKLAHOMA - Infestations heavy in several homes of returning vacationers in Payne County. (Okla. Coop. Sur.).

A BROWN SPIDER (Loxosceles reculusa) - OKLAHOMA - Continues to cause alarm in and around houses in many areas of State. (Okla. Coop. Sur.).

AMERICAN DOG TICK (Dermacentor variabilis) - OKLAHOMA - Populations heavy on various domestic animals in Harper County. (Okla. Coop. Sur.). MICHIGAN - Number of specimens taken recently in Monroe and Berrien Counties. Two cases of Rocky Mountain spotted fever reported from Niles, Berrien County. (Wells, Ruppel). NORTH CAROLINA - Heavily infesting weedy field in Mecklenburg County where factory being constructed. An individual removed 25 ticks from his person after walking up a path and back. (Ashton).

EAR TICK (Otobius megnini) - OKLAHOMA - Populations moderate on cattle in Beaver County. (Okla. Coop. Sur.).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Heavy on livestock in Cherokee County. Larvae average 250 per head on cattle checked in Payne County. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

EARWIGS - VERMONT - A problem in and around homes in Montpelier and Burlington areas. (MacCollom, July 12). CONNECTICUT - Forficula auricularia (European earwig) continues a problem around many homes. (Savos). NEW YORK - Unspecified species beginning to move indoors. (N.Y. Wkly. Rpt., July 12). NEW JERSEY - Unspecified species continues to invade homes in central and northern counties. (Ins.-Dis. Newsltr.). UTAH - F. auricularia troublesome in several Sanpete County communities. (Thornley).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - MARYLAND - Adults entering homes in Baltimore, Carroll and Wicomico Counties. (U. Md., Ent. Dept.). INDIANA - Adults invading homes in Kosciusko, Fulton and Cass Counties. (Lehker).

OLD-HOUSE BORER (Hylotrupes bajulus) - NORTH CAROLINA - Infesting wood locally in Wake County. House was 4 years old. Det. by Wright. (Jones).

SOUTHERN PINE SAWYER (Monochamus titillator) - NORTH CAROLINA - Adult emerged from wall of new home in Alamance County. Det. by Wright. (Peebles).

LARDER BEETLE (Dermestes lardarius) - VERMONT - Prevalent in many homes, particularly where Pollenia rudis (cluster fly) was a problem in spring. (MacCollom, July 12).

SPRINGTAILS - CONNECTICUT - In buildings at Ansonia, Shelton, West Hartford and Norwalk. (Johnson, Savos, July 13).

CRICKETS - MARYLAND - Nymphs of undetermined species entering several homes in Carrollton, Prince Georges County. (U. Md., Ent. Dept.).

MILLIPEDS - NORTH CAROLINA - Continue a problem to homeowners in Wake and Gaston Counties. (Mount, Ashton).

STORED-PRODUCT INSECTS

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - NORTH CAROLINA - Infested food materials locally in Washington County. (Marsh, Jones).

LARDER BEETLES (Dermestes spp.) - IOWA - Larvae of D. lardarius found in protein supplement on a farm at Atlantic. (Iowa Ins. Inf., July 12). MARYLAND - Larvae of Dermestes sp. infesting cured hams on a farm near Brandywine, Prince Georges County. (U. Md., Ent. Dept.).

BENEFICIAL INSECTS

LADY BEETLES - ARIZONA - Counts of 80 per 100 sweeps of Hippodamia spp. in alfalfa. (Ariz. Coop. Sur.). NEW MEXICO - Average counts of 5-12 per 25 sweeps of undetermined species found in alfalfa fields in Belen-Los Lunas area, Valencia County. (Heninger). Counts of 5-30 per 50 sweeps of undetermined species in grain sorghum fields in Eddy County. (Coppock). UTAH - Several species numerous, also syprhid larvae, on box elder aphid-infested trees at Fillmore, Millard County. (Knowlton). WYOMING - Adults and larvae of several species averaged 62 per 100 sweeps in alfalfa fields and 46 per 100 sweeps in grain fields of Washakie, Hot Springs and Fremont Counties. (Marks). IDAHO - Larval population of unknown species high in Parma area lettuce seed field which has low aphid population. (Scott).

MELYRID BEETLES (Collops spp.) - UTAH - These and other species numerous in aphid-infested alfalfa fields over Millard County. (Knowlton). ARIZONA - Average of 30 per 100 sweeps on alfalfa in Yuma County. (Ariz. Coop. Sur.).

A BRACONID (Aphidius smithii) - WASHINGTON - Adults recovered from pea aphid-infested seed and clover alfalfa from Walla Walla to Ellensburg and in the Columbia Basin. This is first recovery from Basin. (Halfhill).

NABIDS (Nabis spp.) - OHIO - Counts of 9 per 25 sweeps of N. ferus in alfalfa field in Mercer County. Populations appear numerous on alfalfa in western area. (Rose). UTAH - N. alternata and Nabis sp. numerous in most Millard County alfalfa fields. (Knowlton). ARIZONA - Counts of 60 per 100 sweeps of Nabis spp. in alfalfa in Yuma County. (Ariz. Coop. Sur.). WYOMING - Nabis sp. adults and nymphs averaged 114 per 100 sweeps in alfalfa and grain fields of Washakie, Hot Springs and Fremont Counties. (Marks).

BIG-EYED BUGS (Geocoris spp.) - ARIZONA - On average of 20 per 100 sweeps on alfalfa in Yuma County. (Ariz. Coop. Sur.). NEW MEXICO - Average of 1-2 per 25 sweeps in alfalfa fields in Belen-Los Lunas area, Valencia County. (Heninger). UTAH - Found in most Millard County alfalfa fields. (Knowlton).

A FLOWER BUG (Orius insidiosus) - OHIO - Observed July 6-14 as common on field corn in many fields in western half of State. Det. by R. H. Davidson. (Rose). UTAH - In most Millard County alfalfa fields. (Knowlton).

LACEWINGS (Chrysopa spp.) - ARIZONA - Counts of 20 per 100 sweeps in alfalfa in Yuma. (Ariz. Coop. Sur.). WYOMING - Numerous in alfalfa and grain fields of Washakie, Hot Springs and Fremont Counties. (Marks). UTAH - In most Millard County alfalfa fields. (Knowlton).

MISCELLANEOUS INSECTS

A MAY BEETLE (Phyllophaga tristis) - WASHINGTON - Adults found in considerable numbers in soil at Vancouver, Clark County; this is approximately 1,000 miles west of previously known records. Det. by Dr. Ralph Dawson; confirmed by O. L. Cartwright. This is a new State record. (Wesseler, May 28).

NORTHERN MASKED CHAFER (Cyclocephala borealis) - MARYLAND - Heavy numbers of adults appeared in recent weeks in blacklight traps in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.).

JAPANESE BEETLE (Popillia japonica) - CONNECTICUT - Adults emerging in small numbers for fourth year in a row. (Savos, July 17).

THREE-LINED POTATO BEETLE (Lema trilineata) - MARYLAND - Larvae and adults feeding heavily on jimsonweed near and in a corn field at Cecilton, Cecil County. (U. Md., Ent. Dept.).

DERMESTIDS - NEVADA - Heavy populations of unspecified species caused severe damage to overwintering Megachile rotundata (a leafcutting bee) in Orovada, Humboldt County. (Hilbig, Gallaway, Lundahl).

PAINTED LADY (Vanessa cardui) - WYOMING - Numerous statewide reports concerning larval feeding on Canada thistle (Cirsium arvense). (Lawson, Fronk, Robb).

CORRECTIONS

CEIR 15(28):753 - APPLE MAGGOT (Rhagoletis pomonella) - WISCONSIN - Note should have been listed under CODLING MOTH (Carpocapsa pomonella).

CEIR 15(29):789 - Quarterly Insect and Mite Outlook in Florida - a LESSER SNOW SCALE (Pinnaspis stachani) should read (Pinnaspis strachani).

CEIR 15(29):798 - EASTERN TENT CATERPILLAR (Malacosoma americanum) - OKLAHOMA - Should read: FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Damaging pecan, hickory and walnut around State. (Okla. Coop. Sur.).

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-JULY TO MID-AUGUST 1965

The Weather Bureau's 30-day outlook for mid-July to mid-August calls for temperatures to average below seasonal normals from the Northern Plains eastward through the Midwest to the Appalachians and also along the Central and Southern Pacific Coast. Above normal averages are anticipated in the southern half of the western Plateau and over most of the Central and Southern Plains, while near normal is expected in unspecified areas. Rainfall is expected to exceed normal in the Atlantic Coastal States, bringing some relief to both Northeastern and Florida drought areas. Above normal totals are also called for over the northern and southern portions of the western Plateau. Subnormal amounts are expected from the Southern Plains northeastward to the Great Lakes Region while little or no rainfall is in prospect in California. Elsewhere near normal amounts are anticipated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D.C. 20250. Price $5.00 a year.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Churinsonia ancillaris (gray cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (white lined arrayworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
ARKANSAS																				
Hope 7/8-14				4						0	20				6		4			
Morrilton 7/8-14				7						0	51				3		25			
Kelso 7/8-14				1						0	5				1		0			
Fayetteville 7/8-14				6						0	52				9		0			
ILLINOIS (County)																				
Champaign 7/9-15	61-83	0		29							3				233	42	283	4	3	
MARYLAND												spp.								
Centreville 7/6-12				48							5	2		93	53		182			
Snow Hill 7/6-12				27							3	3		20	63		220		7	
MASSACHUSETTS																				
East Wareham State Bog 7/4			BL													1				
MICHIGAN (Counties)																				
Berrien 7/6-12			BL	9										2	7	2	2	61			
Monroe 7/6-12			BL	1										0	4	1	0	12			
Branch 7/6-12			BL	4										1	2	0	1	19			
Kalamazoo 7/6-12			BL	2										1	3	0	1	19			
Jackson 7/6/12			BL	1										0	1	0	0	4			
Livingston 7/6-12			BL	12										3	7	0	2	37			
Ionia 7/6-12			BL	4										4	6	0	0	34			
Saginaw 7/6-12			BL	12										2	4	0	0	21			
Sanilac 7/6-12			BL	2										1	1	0	0	11			
Newaygo 7/6-12			BL	7										3	4	0	0	37			
Ogemaw 7/6-12			BL	5										0	2	0	0	13			
Menominee 7/6-12			BL	5										0	7	0	0	20			
Iron 7/6-12			BL	4										0	3	0	0	2			
MINNESOTA																				
Worthington 7/3-9			BL	7									0	12	0		23			
Fergus Falls 7/3-9			BL	3									1	53	0		5			
Crookston 7/3-9			BL	0									0	13	0		6			
Rochester 7/3-9			BL	1									0	2	10		11			
MISSISSIPPI																				
Tunica 7/9-15	67-95	0	BL	5			1		144	1	28					87		7	9	6	54	
Stoneville 7/9-15	66-96	0.45	2 BL	29					114	35	8				127	78	7	21	5	3	5	2
Rolling Fork 7/9-15	66-96	0.45	BL	6					19	27	3				23	1	16		8	20	1	
MISSOURI																				
Portageville 7/10-16				8							11			102		50			7			
NEBRASKA												spp.								
Gering Valley 6/24-30				13		15						4			13				33			
Gering Valley 7/1-7				15		7						11			14				36			

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chloridea (Heliothis) zea (corn earworm)	Estigmene acrea (salt-marsh caterpillar)	Feronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege comstockiana (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet armyworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudalaria unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
												spp.												
NEBRASKA (continued)																								
Scotts Bluff Expt. Sta. 6/19-25				6		20		2		1	340	11			41				1					
Scotts Bluff Expt. Sta. 6/26-7/2				29		46						23			26				187					
NEW JERSEY																								
Aura 7/12, 16											5					1			29					
Edinburg 7/12, 16														2				1	44					
Masonville 7/12, 16											2			1		2			44					
Seabrook 7/12, 16											2					4			100					
Hardingville 7/12, 16					20																			
Hurffville 7/12, 16					10																			
NORTH DAKOTA																								
Fargo 7/10-16																			3					
Williston 7/10-16				5															1					
Bowman 7/10-16				3															5					
SOUTH CAROLINA																								
Charleston 7/12-18	69-90	2.07	BL	1			0		0	0	0				8	3	0	0	0		0	9		
												sp.												
SOUTH DAKOTA																								
Brookings 7/9, 12, 13			BL	2								7		7					17					
TENNESSEE (County)																								
Knox 7/9-15				2							22					13		2	12					
TEXAS																								
Waco 7/10-16				14			1		31	1	85				24	30			20			69		
WISCONSIN																								
Darien 7/6-12			2 BL	100							1			3	37				423					
Fontana 7/6-12			BL	29							0			0	32				94					
Delavan 7/6-12			BL	143							3			0	50				275					
Janesville 7/6-12			BL								2			2					78					
Evansville 7/6-12			BL								0			2					179					
Mazomanie 7/7-13			BL	3							1			0	0				9					
Madison 7/7-13	48-91		BL	90	13						0			0	22				122					
Middleton 7/7-13			BL	62	6						0			3	11				56					
De Forest 7/6-12			BL	2							0			2					22					
Arlington 7/6-12			BL	19							3			5	26				88					
Eden 7/6-12			BL								0			26					30					
Oakfield 7/6-12			BL								3			1					32					
Fox Lake 7/6-12			BL								1			28					104					
Beaver Dam 7/6-12			BL								1			73					92					
Danville 7/6-12			BL								3			32					59					
Clyman 7/6-12			BL								1			2					11					

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carnoscapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
WISCONSIN (continued)																								
Ripon 6/29-7/5			BL								0				538					160				
Rosendale 6/29-7/5			BL								0				514					150				
Hancock 7/8-13			BL	3							0				0	1				6				
Cedar Grove 7/6-12			BL	5							0				14					49				
Waldo 7/6-12			BL	15							0				7					41				

* BL = blacklight; I = incandescent; MV = mercury vapor; O - other

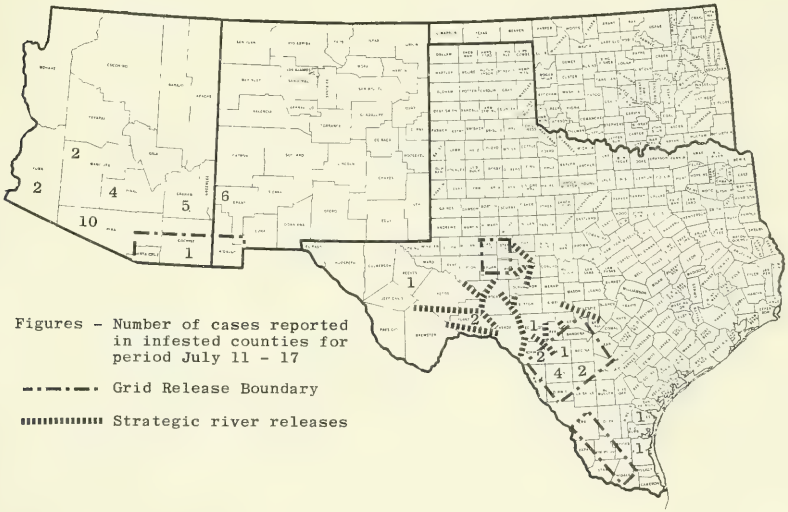
** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period July 11-17, a total of 45 cases was reported in the Southwestern Eradication Area, as follows by State and counties: TEXAS - Kinney 2, Nueces 1, Frio 2, Terrell 2, Uvalde 1, Reeves 1, Zavala 4, Edwards 1, Kenedy 1; ARIZONA - Graham 5, Pima 10, Pinal 4, Yuma 2, Cochise 1, Maricopa 2; NEW MEXICO - Grant 6. The Republic of Mexico reported 149 cases: Sonora 36; Chihuahua 20, Coahuila 18, Nuevo Leon 5, Tamaulipas 1, Baja California 10, Territory of Baja California Sur 32, Durango 16, Veracruz 8, San Luis Potosi 3. Sterile screw-worm flies released: Texas 25,046,250, New Mexico 4,640,000, Arizona 15,776,000, California 2,240,000, the Republic of Mexico 91,520,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding weeks in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	124	2,139	110	4,270	112.72	50.09
1964	2	101	58	3,993	3.44	2.52
1965	45	406	99	3,281	45.45	12.37
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	109	1,036	64	1,136	170.31	91.19
1965	164	2,531	63	1,336	260.31	189.44
Table 2A. Mexican portion of Barrier Zone only.						
1964	104	963	44	466	236.36	206.65
1965	122	2,195	45	725	271.11	302.75

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Dis. Erad. Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

ATTACKING Peas (canning & freezing) (Commodity) IN Minnesota (State or District) DURING 1964 (Year)

A. Pest or pest complex: Pea aphid

B.	Number of acres[a] produced (From CRS)	No.	54,600
C.	Average yield per acre[a] (From CRS)	Units/	1,980 lb.
D.	Price[b] per unit (ton)[c] (From CRS)	$/	99.10
E.	Acres[a] needing control	No.	14,229
F.	Acres[a] treated	No.	14,229
G.	Reduction due to not treating where needed:		
H.	Loss in yield, percent	%	Trace
I.	Loss in yield, units per ----[a], C x H	Units/	----
J.	Loss in yield, $ per ----[a], D x I	$/	----
K.	Loss in quality, $ per ----[a]	$/	----
L.	Yield loss for all ----[a], (E-F) x I	Units	----
M.	Control cost, $ per acre[a]	$/	3.00
N.	Control cost for all acres[a], F x M	$	42,687
O.	Yield loss for all ----[a], (E-F) x J	$	----
P.	Quality loss for all ----[a], (E-F) x K	$	----
Q.	Combined control cost and losses, N + O + P	$	42,687

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Robert Flaskerd

Date March 19, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Nebraska (State or District) DURING 1964 (Year)

ATTACKING Wheat (Commodity or Crop)

A. Pest or pest complex: Cutworms, Hessian fly, greenbug, grasshoppers, wireworms, brown wheat mite, white grubs, wheat stem maggot, English grain aphid, chinch bug, wheat curl mite

B.	Number of acres[a] produced (From CRS)	No.	2,953,000
C.	Average yield per acre[a] (From CRS)	Units/	25.0 bu.
D.	Price[b] per unit (bu.)[c] (From CRS)	$/	1.35
E.	Acres[a] needing control	No.	442,950
F.	Acres[a] treated	No.	147,650
G.	Reduction due to not treating where needed:		
H.	Loss in yield, percent	%	4.0
I.	Loss in yield, units per acre[a], C x H	Units/	1.0 bu.
J.	Loss in yield, $ per acre[a], D x I	$/	1.35
K.	Loss in quality, $ per ----[a]	$/	----
L.	Yield loss for all acres[a], (E-F) x I	Units	295,300 bu.
M.	Control cost, $ per acre[a],	$/	2.45
N.	Control cost for all acres[a], F x M	$	361,742.50
O.	Yield loss for all acres[a], (E-F) x J	$	398,655.00
P.	Quality loss for all -----[a], (E-F) x K	$	----
Q.	Combined control cost and losses, N + O + P	$	760,397.50

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

ATTACKING Oats (Commodity or Crop)

A. Pest or pest complex: Cutworms, grasshoppers, greenbug, wireworms, English grain aphid, white grubs, chinch bugs, leafhoppers, armyworms

B.	Number of acres[a] produced (From CRS)	No.	776,000
C.	Average yield per acre[a] (From CRS)	Units/	29.5 bu.
D.	Price[b] per unit (bu.)[c] (From CRS)	$/	0.66
E.	Acres[a] needing control	No.	93,120
F.	Acres[a] treated	No.	3,880
G.	Reduction due to not treating where needed:		
H.	Loss in yield, percent	%	3.0
I.	Loss in yield, units per acre[a], C x H	Units/	0.89 bu.
J.	Loss in yield, $ per acre[a], D x I	$/	0.59
K.	Loss in quality, $ per ----[a]	$/	----
L.	Yield loss for all acres[a], (E-F) x I	Units	79,423.6 bu.
M.	Control cost, $ per acre[a],	$/	2.40
N.	Control cost for all acres[a], F x M	$	9,312.00
O.	Yield loss for all acres[a], (E-F) x J	$	52,651.60
P.	Quality loss for all -----[a], (E-F) x K	$	----
Q.	Combined control cost and losses, N + O + P	$	61,963.60

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Nebraska (State or District) DURING 1964 (Year)

ATTACKING Corn (Commodity or Crop)

A. Pest or pest complex: Corn rootworms, European corn borer, corn earworm, seed-corn beetle, cutworms, grasshoppers, wireworms, mites, corn leaf aphid, seed-corn maggot, stalk borer, armyworm, fall armyworm, grubs

B. Number of acres[a] produced (From CRS)	No.	4,483,000
C. Average yield per acre[a] (From CRS)	Units/	52.0 bu.
D. Price[b] per unit (bu.)[c] (From CRS)	$/	1.15
E. Acres[a] needing control	No.	4,034,700
F. Acres[a] treated	No.	2,689,800
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	18.0
I. Loss in yield, units per acre[a], C x H	Units/	9.36 bu.
J. Loss in yield, $ per acre[a], D x I	$/	10.76
K. Loss in quality, $ per ----[a]	$/	----
L. Yield loss for all acres[a], (E-F) x I	Units	12,588,264 bu.
M. Control cost, $ per acre[a],	$/	2.70
N. Control cost for all acres[a], F x M	$	7,262,460.00
O. Yield loss for all acres[a], (E-F) x J	$	14,471,124.00
P. Quality loss for all ----[a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	21,733,584.00

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

ATTACKING Popcorn (Commodity or Crop)

A. Pest or pest complex: Corn rootworms, European corn borer, corn earworm, seed-corn beetle, cutworms, grasshoppers, wireworms, mites, corn leaf aphid, seed-corn maggot, stalk borer, armyworm, fall armyworm, grubs

B. Number of acres[a] produced (From CRS)	No.	19,000
C. Average yield per acre[a] (From CRS)	Units/	2,200 lb.
D. Price[b] per unit (lb.)[c] (From CRS)	$/	.025
E. Acres[a] needing control	No.	17,100
F. Acres[a] treated	No.	11,400
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	22.0
I. Loss in yield, units per acre[a], C x H	Units/	484 lb.
J. Loss in yield, $ per acre[a], D x I	$/	12.10
K. Loss in quality, $ per ----[a]	$/	----
L. Yield loss for all acres[a], (E-F) x I	Units	2,758,800 lb.
M. Control cost, $ per acre[a],	$/	2.70
N. Control cost for all acres[a], F x M	$	30,780.00
O. Yield loss for all acres[a], (E-F) x J	$	68,970.00
P. Quality loss for all ----[a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	99,750.00

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Federal Center Building
Hyattsville, Maryland 20781

Volume 15 July 30, 1965 Number 31

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GRASSHOPPERS damaging regrowth alfalfa, oats and wheat in Wisconsin, moving into corn, soybeans and grain in Minnesota, damaging sweetclover in South Dakota; heavy in southwest and west central Missouri and on rangeland and most crops in several areas of Oklahoma; damaging vegetables in New Mexico. (pp. 847, 848). EUROPEAN CORN BORER spring-generation moth flight nearing peak in northern Wisconsin and pupation underway in southern areas; emergence underway in southern Indiana; second-brood moths noted in Iowa and New Jersey. (p. 849). ARMYWORM migrating in large numbers to corn and sorghum in Colorado and present in oats in Wyoming. Second BLACK CUTWORM adult flight appears greater than that of 1964 in Wisconsin, indicating potential threat if conditions favorable. NORTHERN CORN ROOTWORM adults emerging in Indiana and reported in several other States; root damage and lodging reported. (p. 850). CORN LEAF APHID increased on corn in South Dakota; found on all corn and sorghum in Arkansas Valley of Colorado, abundant on sweet corn in Idaho, heavy on sorghum in Iowa; infesting 50-100 percent of corn checked in several areas of Wisconsin. (pp. 851, 852). ENGLISH GRAIN APHID increased sharply in several areas of Wisconsin, could cause economic losses to wheat; considerable buildup noted in North Dakota. GREENBUG increased sharply in grain in Minnesota; damage apparent in some oats. (p. 852). TWO-SPOTTED SPIDER MITE may become serious on sweet corn in Idaho within 2-3 weeks. (p. 853).

PEA APHID extremely heavy on alfalfa in Minnesota, and heavy in South Dakota, Missouri and New Mexico. (p. 853). SPOTTED ALFALFA APHID increasing on alfalfa in Colorado, Arkansas and Wisconsin. (pp. 853, 854). LYGUS BUGS increasing on alfalfa in Arizona and Idaho, high in Nevada; remain problem on cotton in California. (pp. 854, 865). POTATO LEAFHOPPER yellowing second-growth alfalfa in northern Indiana and yellowing more evident in Wisconsin; damage evident on alfalfa in Maryland. (p. 854). ALFALFA WEEVIL damage heavy on first-crop hay in New Mexico, and damage to alfalfa in Utah heaviest in 10 years. (pp. 854, 855).

CODLING MOTH damaging apple and pear in New Mexico; second-brood larval entrances expected about July 25 in eastern New York. Second-brood larvae of RED-BANDED LEAF ROLLER and ORIENTAL FRUIT MOTH noted in Connecticut and New York, respectively. (p. 856). General increase in APPLE MAGGOT adult emergence reported in several areas. (pp. 856, 857). EUROPEAN RED MITE troublesome in apple-growing areas. (p. 857). BLACK SCALE at highest level in 15 years of record on Florida citrus. (p. 858). POTATO APHID heavy on commercial potatoes on Eastern Shore of Maryland. (p. 860). CABBAGE LOOPER and IMPORTED CABBAGEWORM increasing on crucifers. (p. 861). PEA APHID populations fluctuate on peas in Wisconsin. (p. 862). GREEN PEACH APHID continues to increase on tobacco in Maryland. (p. 863).

BOLL WEEVIL infestations increasing on cotton in several cotton-producing States. (pp. 863, 864). SPIDER MITES a problem on cotton in delta area of Mississippi and in Fresno County, California. (p. 866).

SUGAR-PINE CONE BEETLE causing widespread damage to sugar pine on Klamath National Forest, California, and WHITE-PINE WEEVIL seriously damaging white pine on Arnot Forest, New York. JACK-PINE BUDWORM caused heavy defoliation on Beltrami Island State Forest, Minnesota. (pp. 867, 868). ELM LEAF BEETLE continues serious in several areas. (pp. 868, 869). LOCUST BORER serious in Iowa and Utah. FALL WEBWORM increasing and BAGWORM heavy in some Southern States. (p. 869, 871). MOSQUITOES remain troublesome to man and livestock in some areas. (p. 872).

(Continued on page 846).

DETECTION

New State records reported include: EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) in New Hampshire (p. 857); EUROPEAN RED MITE (Panonychus ulmi) in Colorado (p. 857); a SPIDER MITE (Tetranychus mcdanieli) in New Hampshire (p. 863); LARCH SAWFLY (Pristiphora erichsonii) in Oregon (p. 867); BIRCH LEAF MINER (Fenusa pusilla) in Iowa (p. 870); a SOFT SCALE (Pulvinaria ericicola) in Ohio (p. 870); HOLLYHOCK WEEVIL (Apion longirostre) in Utah (pp. 871, 872); a WHITE-FRINGED BEETLE (Graphognathus leucoloma striatus) in Maryland (p. 875); a PTEROMALID WASP (Cecidostiba dendroctoni) from Mississippi (p. 875). New county records included: HOLLYHOCK WEEVIL (Apion longirostre) in Cache, Utah, Juab, Salt Lake and Davis Counties, Utah, (pp. 871, 872); FACE FLY (Musca autumnalis) in Vernon County, Missouri, (p. 873); and WHITE-FRINGED BEETLES (Graphognathus spp.) from Rutherford County, Tennessee, (p. 875).

CORRECTIONS

See page 876.

SPECIAL REPORTS

Survey to Determine Wireworm Damage to Potatoes During Spring 1965 in Vicinity of Charleston, South Carolina. (p. 860).

Status of the Screw-worm in the Southwest. (p. 880).

Reports in this issue are for week ending July 23 unless otherwise indicated.

WEATHER OF THE WEEK ENDING JULY 27

HIGHLIGHTS: (1) Long-term drought continues, Northeast. (2) Extremely heavy showers at Denver, parts of Missouri, Kentucky, and Tennessee. (3) Hot and humid in most areas east of Rockies.

TEMPERATURE: Hot, humid tropical air pushed northward over the Great Plains and brought temperatures in the high 90's as far north as North Dakota. Pierre, Philip, and Huron, South Dakota, registered 107° on Thursday afternoon before cooler, drier, polar continental air pushed southward from Canada, dropping the temperatures over the northern Great Plains to the 80's and 90's. Ninety-degree temperatures were common near Lake Michigan on Friday and in the Northeast over the weekend. It was the hottest week of the year in Oklahoma. Dew point temperatures were generally in the 70's in the warm air and in the 50's and 60's in the cool air. Temperatures averaged below normal over the western and eastern thirds of the Nation and above normal over the middle third. Most of Idaho and nearby portions of Washington, Oregon, and Montana averaged more than 6° cooler than normal but departures were smaller elsewhere.

PRECIPITATION: There were no important changes in the drought situation in the Northeast. The light sprinkles missed many areas. A few spots received 0.25-0.50 inch of rain but more rain was needed. Thundershowers were scattered over most of the Nation but in most cases produced only light amounts of rain. Wide areas in California and Texas received no rain. Much of the Nation received less than 0.75 inch. A few spots received more than 2 inches. Over 5 inches fell at Denver, Colorado. Heavy rains continued over portions of northwestern and west central Missouri, bringing storm totals in the northwest portion to more than 20

(Weather continued on page 876).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - WISCONSIN - Development of Melanoplus femurrubrum (red-legged grasshopper) showed little change since report in CEIR 15(30):816, although few adults appearing in more advanced areas of State. Populations somewhat lower in southern areas than in 1964 but appear higher in northern Grant, Iowa and southern Sauk Counties. Dissosteira carolina (Carolina grasshopper) adults common along roadsides; first noted week ending July 16. M. sanguinipes (migratory grasshopper) adults noted causing serious damage to kernels of oats and wheat at several locations near Spring Green, Sauk County; some damage to regrowth alfalfa reported in Fond du Lac County. Nymphs of M. femurrubrum appearing in Eau Claire and Ashland Counties. (Wis. Ins. Sur.). MINNESOTA - Grasshopper movement from roadsides and field margins into corn, soybeans and grain noted in southwest, west central and central districts. Averaged 45 per square yard in one Lac qui Parle County field margin; ranged 18-27 per square yard in adjacent oats and corn, extending 3 rods into fields. Leaf feeding very heavy on oats. M. differentialis (differential grasshopper) predominant species, with nymphs in fourth and fifth instars. Movements into crops also noted in Pipestone, Lyon and Redwood Counties; damage light but will increase. M. femurrubrum dominant species in these counties, but M. differentialis and M. bivittatus (two-striped grasshopper) noted. M. femurrubrum and M. differentialis nymphs generally in second to fourth instars, with high percentage of fifth instar nymphs of M. differentialis present in some fields. Few adults of M. bivittatus observed. Few high grasshopper counts found in few fields in Fillmore, Mower and Olmsted Counties; highest counts found in alfalfa and ranged up to 27 M. femurrubrum per square yard. Highest grasshopper counts present in Pope, Swift, Chippewa and Lac qui Parle Counties in west central district, but populations rather scattered. Counts low in northwest district. (Minn. Ins. Rpt.).

SOUTH DAKOTA - On rangeland during week ending July 12, grasshoppers ranged 3-8 per square yard on Miller Ranch along Moreau River in Dewey and Ziebach Counties, 1-6 in Haakon and Meade Counties and 1-10 in Short Pines area of Harding County. Ageneotettix deorum, Aulocara spp., M. sanguinipes and M. packardii (Packard grasshopper) were species observed; mostly third and fourth instars. Grasshoppers ranged 6-15 per square yard week ending July 16 in range areas near Custer, Custer County, with few adults noted. Species included A. deorum, Aulocara spp., M. occidentalis and M. bivittatus(two-striped grasshopper). (Burge). Grasshoppers averaged 1-2 per square yard in field margins, alfalfa and in brome and grass pastures in Kingsbury, Clark and Codington Counties. West of this area in Beadle County, numbers varied 1-3 per square yard in brome hay and field margins and 5-7 in alfalfa. Up to 15 per square yard counted in alfalfa in Sanborn County, with 4-5 per square yard noted in field margins; averaged 5 per square yard in oat stubble in area. Second to third instars of M. femurrubrum comprised 75 percent of population. (Novotny, Jones, July 19). Ranged 8-20 per square yard in Pennington County and average 10 per square yard in Jones County on soil bank lands. Species included M. differentialis, M. bivittatus, M. sanguinipes and M. femurrubrum. Some M. bivittatus and M. sanguinipes adults present. (Burge, Gardner, Zimmerman, July 19). Grasshoppers ranged 25-30 per square yard in 40-acre field of sweetclover with considerable damage evident east of Gregory, Gregory County; population of 30-35 per square yard stripped alfalfa or sweetclover in 100-acre field east of Mosher, Mellette County; 20 grasshoppers per square yard caused some damage to sorghum adjoining brome-soil bank field north of Ravina, Charles Mix County. Generally, however, grasshoppers averaged 2-3 per square yard in fields and margins in Bon Homme, Gregory and Charles Mix Counties. Species in order of prevalence, M. differentialis, M. bivittatus and M. femurrubrum. (Novotny). Grasshoppers ranged 20-30 per square yard along field margins of corn in Hutchinson County. (Jones, Kantack). NORTH DAKOTA - Grasshopper nymphs ranged from less than 1 to 12 (average 2) per square yard in field margins in Burleigh, Logan, Emmons, McIntosh, Dickey, La Moure, Ransom, Sargent and Richland Counties; field counts ranged from less than 1 to 12 (average 1) per square yard. M. bivittatus and Camnula pellucida (clear-winged grasshopper) dominant species; ranged second instar to adult, mostly third instar. (Scholl). Grasshoppers ranged 2-15 per square yard in Renville, Burke, Williams, McKenzie, Dunn, Pierce, McHenry, Wells and Sheridan Counties. M. bivittatus dominant species. (Cushing).

NEW MEXICO - Grasshoppers causing minor damage to several fields of alfalfa checked near Farmington, San Juan County; counts per 25 sweeps ranged 5-7 at Farmington and 2-5 at Laplata. Light to heavy numbers feeding on foliage and flowers of vegetables in San Juan County. (Heninger). UTAH - Grasshoppers troublesome over much of Salt Lake County. Many homeowners applied controls; much roadside and school lands treated. Hatching still underway. Troublesome in Carbon County about homes especially at Price, Helper and Wellington. All stages of Aulocara elliotti, Melanoplus sanguinipes, M. bivittatus and Trimerotropis sp. present on farms and in foothills of Salt Lake, Box Elder and Cache Counties; nymphal damage to alfalfa, berry crops and flowers about homes increasing in many localities. (Knowlton). Controls applied to 2,000 acres in Kanarraville area, Iron County. Grasshoppers just hatching on 300 acres of rangeland on Cedar Mountain. (Sjoblom, Knowlton). NEVADA - M. sanguinipes adults and late-instar nymphs per square yard ranged 15-20 along field margins and 2-3 within several fields of alfalfa in Fallon, Churchill County. (Martinelli). CALIFORNIA - Grasshoppers infesting 2,000 acres of lower Tulelake game refuge in Siskiyou-Modoc County area; scheduled for aerial treatment later in July. (G. Harmon). OKLAHOMA - Limited surveys in Cherokee and Tulsa Counties revealed adults of several species ranged 15-20 per square yard in crop margins and improved pastures. M. bivittatus, M. differentialis and Hesperotettix speciosus dominant species. M. differentialis and M. bivittatus ranged 10-15 per square yard in pastures in Garvin County. Unspecified grasshoppers reported moderate to heavy on rangeland and most crops in Mayes, Ottawa, Grady, Murray, Washita and Woodward Counties. (Okla. Coop. Sur.). ARKANSAS - Heavy, local population of M. differentialis caused considerable ragging of soybean leaves in a Washington County field. (Ark. Ins. Sur.). MISSOURI - Adult and nymphal grasshopper populations heavy in isolated fields in southwest and west central districts. M. differentialis adults ranged 10-15 per square yard in fence row of field in Vernon County and entering field. In Jasper, Barry and Greene Counties, M. differentialis, M. bivittatus and M. femurrubrum ranged 20-25 per square yard in margins and 10-15 in fields in some pastures and corn; noneconomic in most fields checked. (Houser). OHIO - Nymphs, predominantly M. femurrubrum, numerous on forage crops and stubble in Fairfield, Meigs and Perry Counties; averaged 1 per sweep in field of alfalfa in Meigs County. (Rose). ALABAMA - Grasshoppers present in large numbers in pastures, along roadsides and on wasteland in much of Coosa and Clay Counties. Romalea microptera (eastern lubber grasshopper) noted in light numbers in same area. (Barwood).

SOD WEBWORMS - RHODE ISLAND - Injury to lawn and adults observed in Lincoln, Providence County. (Veilleux). NEW JERSEY - Activity quite common in central counties. (Ins.-Dis. Newsltr.). UTAH - Adults extremely numerous in Salt Lake, Weber, Box Elder and Cache County localities. (Knowlton). ARIZONA - Severe damage by Crambus spp. found in some lawns in Tucson area, Pima Connty. (Ariz. Coop. Sur.).

TENT CATERPILLARS - CALIFORNIA - Undetermined species damaging 10-15 percent of bitterbrush bushes along State Highway 36 west of Susanville, Lassen County. (J. Hoefer, USFS).

JUNE BEETLES - GEORGIA - Adults of Cotinis nitida (green June beetle) very heavy in pastures in Franklin County. (Ashworth). NEVADA - Polyphylla sp. adults very numerous in lower Clear Creek area, Ormsby County. (Bechtel, Martinelli).

A BILLBUG (Sphenophorus sp.) - NEW JERSEY - Infestation of turf found in Middlesex County. (Ins.-Dis. Newsltr.).

A PLANT BUG (Irbisia solani) - CALIFORNIA - Various stages infested 300 acres of planted grasses in burned-over area on San Bernardino National Forest. Heavy numbers severely damaged 40 acres; currently subsiding. (H. Graham, USFS).

SPITTLEBUGS - GEORGIA - Heavy on Coastal Bermuda grass for silage in Washington County. (Gilmore). Infesting 110 acres of Coastal Bermuda grass in Spalding County; severe on 30 acres. (Tippins). Nymphs numerous on Coastal Bermuda grass in an unspecified area. (Beck).

EUROPEAN CORN BORER (Ostrinia nubilalis) - INDIANA - Adult emergence well underway in southern third of State; 238 adults taken in blacklight trap in Posey County July 9-16. Infestations of fourth and fifth-stage larvae ranged 2-60 (average 4-8) percent in eastern half of State. (Huber). Infestations range 2-6 percent in fields checked in west central and northwest areas. (White). MICHIGAN - Some young larvae detected boring into sweet corn in Berrien County. (Ruppel). ILLINOIS - Pupation of first generation varies 33-75 percent in area from St. Louis north to State Route 6; some adults already emerged and emergence and egg laying will continue for next 3 weeks. First-generation populations low in area; populations ranged 0-3 larvae per 100 stalks except in extreme western area where average population per county ranges from 8 to maximum of 12 larvae per 100 stalks. Control for second generation will be profitable only in certain fields of sweet corn, some hybrid production fields and extremely late maturing fields. (Ins. Sur. Bul.). IOWA - Annual survey to determine abundance of first brood conducted July 14-16; averaged 27.8 percent of plants infested with average of 38.5 borers per 100 plants, compared average of 31.9 percent plants infested with average of 52 borers per 100 plants in 1964. Dissections in Boone County July 16 showed average of 17 borers per 100 plants. First adult emergence at Ankeny noted July 14 and 3 second-brood adults taken in light trap July 15; at Hamburg 3 taken July 14. (Iowa Ins. Inf.). WISCONSIN - Pupation underway in southern areas. Dissections revealed pupation of 20 percent in both Green and Sauk Counties; no pupation indicated in Grant County. Most larvae feeding in tassel areas of corn except in drier areas where feeding more common in stalks. Few early fields heavily infested although most infestations less than 10 percent. Spring generation moth flight apparently nearing peak in more northerly areas. (Wis. Ins. Sur.). MINNESOTA - Egg masses still found in west central district, but counts low. Number of infested plants per 100 averaged as follows by district: Southwest 17, south central 10, southeast 3, west central 19, central 7. (Minn. Ins. Rpt.).

SOUTH DAKOTA - Damaged 40-50 percent of corn plants examined in Charles Mix County; up to 75-80 percent of whorls damaged in single plants. Larvae in second instar and entering stalks. (Jones, July 16). NEBRASKA - First-brood pupation ranges 45-60 percent in central area; no adult emergence observed. (Rhine, Roselle). DELAWARE - Adults averaged 5 per night in blacklight trap collections in Sussex County. (Burbutis, Woodall). NEW JERSEY - Second-brood moths appearing in Middlesex County. Egg laying can now be expected in southern counties. (Ins.-Dis. Newsltr.). NEW YORK - Mostly fifth instars and pupae noted in sweet corn in Hudson Valley. Moths which lay eggs for second brood emerging; first collected July 17. (N.Y. Wkly. Rpt.). VERMONT - Controls necessary to prevent injury to sweet corn. (MacCollom, July 19).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ARKANSAS - Adult emergence averaged 20 percent in southeast area; these adults will produce third generation. (Ark. Ins. Sur.).

CORN EARWORM (Heliothis zea) - VERMONT - Controls still necessary to protect sweet corn from injury. (MacCollom, July 19). NEW YORK - Occasional large larva noted in harvested ears of sweet corn in Hudson Valley. No moths taken in light trap at Poughkeepsie, but emergence from overwintered pupae in cartons increased. (N.Y. Wkly. Rpt., July 19). RHODE ISLAND - Heavy in unsprayed sweet corn in Smithfield and Johnston, Providence County. (King). NEW JERSEY - Continued protection of corn recommended for remainder of season. (Ins.-Dis. Newsltr). ALABAMA - Larvae heavy and pupating in fields of early corn in Monroe, Greene and Perry Counties. Moths appearing and eggs being laid on cotton, grain sorghum and other crops. (Hawkins et al.). ILLINOIS - None found in whorls or on silks of corn in northwest, west or east districts; larvae ranged 0-4 (average 0.1) per 100 silks on field corn in west-southwest. (Ill. Ins. Rpt.). OKLAHOMA - Larvae moderate and reported damaging peanuts in Choctaw County. Moderate (21 per 100 terminals) on peanuts in Tulsa County and light (4 per 100 terminals) in Creek County. Reported moderate on corn in Washita County. (Okla. Coop. Sur.). NEW MEXICO - Light to moderate in field corn at Farmington, San Juan County. (Heninger). COLORADO - Trace numbers found on corn in Lucerne area, Weld County. (Urano). UTAH - Larvae infested 10

percent of tassels in field of sweet corn in northern area; eggs on newly formed silks very low. Early market corn comparatively free of injury. (Dorst). NEVADA - Young larvae of this and Prodenia praefica (western yellow-striped armyworm) light and spotted in alfalfa in Fallon and Swingle Bench areas, Churchill County. (Cooney, Martinelli).

ARMYWORM (Pseudaletia unipuncta) - COLORADO - Large numbers migrating from grassland and small grains to corn and sorghum in several areas of Otero County. (Schweissing). Quite generally distributed in eastern area of State. (Jenkins). Serious on barley in Weld and Larimer Counties; controls required. (Konkite, Jenkins, Hantsbarger). WYOMING - Large numbers present in oats in Platte and Goshen Counties; ranged 2-8 (average 5.5) larvae per square foot. Ranged 0-1 (average 0.25) per square foot in alfalfa in area. (Marks). NEBRASKA - Larvae ranged 5-15 per square foot in oats in Alliance area, including portions of Scotts Bluff, Sheridan, Sioux and Box Butte Counties. (Andersen). MINNESOTA - Larvae appearing in barley in northwest; third-stage larvae ranged from trace to 1 per square yard. Lodged areas in fields should be checked. (Minn. Ins. Rpt.). DELAWARE - Adults averaged 20 per night in blacklight trap collections in Sussex County. (Burbutis, Woodall).

FALL ARMYWORM (Spodoptera frugiperda) - WYOMING - Light to moderate numbers causing some damage to field and sweet corn in Platte County; average of 4 plants in 100 found infested. Det. by F. A. Lawson. (Marks). COLORADO - Found on corn in all areas of Arkansas Valley; infestation averaged 5 percent or less, but as much as 20 percent in some fields in isolated areas. Most larvae about to pupate. Controls erratic. (Schweissing). FLORIDA - Few larvae noted on sugarcane at Apopka, Orange County, July 8; infested approximately 1 percent of 2,000 plants inspected. (Musgrove).

BLACK CUTWORM (Agrotis ipsilon) - WISCONSIN - Large numbers of adults continue to be taken in several blacklight traps. Second flight appears to be greater than that of 1964 season, indicating potential threat if conditions favorable. Much depends on attractiveness of grasses compared with that of crops where high populations present. (Wis. Ins. Sur.).

LESSER CORNSTALK BOERE (Elasmopalpus lignosellus) - GEORGIA - Heavy in young corn in Franklin County. (Jordan).

SORGHUM WEBWORM (Celama sorghiella) - ALABAMA - Light numbers observed on heads of grain sorghum in Perry County. (McQueen).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - WISCONSIN - Recently emerged adults noted in Spring Green area, Sauk County. Peak emergence will not occur for several weeks. (Wis. Ins. Sur.). MISSOURI - Averaged 6-7 (range 1-13) adults per silk mass on field of continuous corn in Linn County where no soil insecticide used. (Peters, Thomas, Craig). ILLINOIS - Adults per 100 corn plants by district as follows: Northwest, 0-32 (average 3.2) on 0-20 (average 2) percent of plants; west, 0-408 (average 31.3) on 0-60 (average 7.06) percent of plants; east, 0-20 (average 2.7) on 0-20 (average 2.2) percent of plants; beetles ranged 0-36 (average 4.0) in central and 0-20 (average 1.5) in west-southwest areas per 100 corn plants. (Ill. Ins. Rpt.). INDIANA - Adults emerging throughout State. Averaged as high as 10-12 per silk in some localized areas of southeast and east central sections. Generally, adults averaged 1-2 per silk and infestations ranged 15-30 percent of fields checked. (Huber). Heavy larval population caused lodging of 20 percent of 300-acre field of popcorn 3 feet tall in Newport area of Vermillion County. (Lehker). OHIO - All stages reported on corn in Van Wert County; some root systems so weakend plants easily pulled by hand. Late-planted corn most severely infested, especially if field continuously in corn. (Polivka). Adults reported on corn near Wapakoneta, Auglaize County. (Brown). Approximately 70 percent of corn plants inspected in field near Reedsville, Meigs County, with one or more beetles present, occurred over most of plant, in silk, at bases of leaves, around tassels. (Rose). NEW YORK - Ranged 1-20 per corn plant in Cayuga County; pupation underway. Some corn varieties appear particularly susceptible to attack. (N.Y. Wkly. Rpt., July 19)

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - ILLINOIS - Adults not observed on corn in northwest. Counts per 100 plants in other districts as follows: Northwest, 0-28 (average 2.6); west, 0-28 (average 5.4); central, 0-12 (average 1.44); west-southwest, 0-88 (average 10.1). (Ill. Ins. Rpt.). NEBRASKA - Few adults observed in central area; averaged less than one per 5 stalks. (Rhine, Roselle). GEORGIA - Adults numerous in fields of peanuts in Early and Terrell Counties. (Morgan).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - SOUTH DAKOTA - Small numbers of adults emerged, with 7 and 10 per plant noted in McCook and Yankton Counties, respectively. (Jones, July 19). NEBRASKA - Larvae present in small numbers; pupation and adult emergence proceeding rapidly. Adults ranged 15-20 per plant on sweet corn interplanted with field corn in Platte County. Recovery of corn from larval damage excellent due to moisture. (Rhine, Roselle).

CORN ROOTWORMS (Diabrotica spp.) - SOUTH DAKOTA - Adults emerging in numbers over southern area. Heavy adult populations expected over wide area and some controls may be necessary. Necessity for control to protect silks for proper pollination will depend on adult numbers and degree of silk feeding damage during pollination. (Kantack, July 19). IOWA - Causing problems in western third of State where proper controls not applied. Seriously damaged field of corn in Taylor County; 60-70 percent of plants wilting and lodging; no controls used on second-year corn following soybeans. Averaged 5 per corn plant at Newell, Buena Vista County; damage severe; rain scarce and root growth poor. (Iowa Ins. Inf., July 19). MINNESOTA - Most larvae in second and third stages; prepupae and pupae present in most fields. Light emergence of D. longicornis (northern corn rootworm) noted in Wright County. Excellent moisture conditions aided in growth of new roots on damaged corn plants. Few heavily damaged, though stunted, fields showing good recovery. (Minn. Ins. Rpt.).

CEREAL LEAF BEETLE (Oulema melanopa) - ILLINOIS - Controls applied to 10,546 acres July 1-3 for suppression in 3 known infested counties as follows: Will 2,375, Kankakee 4,075 and Vermilion 4,096. Treatments covered all areas where beetles found in State. Second treatment applied July 8 to 320 acres in Vermilion County and 320 acres in Kankakee County in areas where larvae found. (Lanier). INDIANA - In St. Joseph and La Porte Counties, 75-80 percent of summer adults from oats entered aestivation. (Wilson). MICHIGAN - Activity very low, except in extremely late oats where few eggs and some light larval activity noted. (Dowdy).

A SAP BEETLE (Glischrochilus quadrisignatus) - WISCONSIN - Adults becoming more common in fields of corn where associated with Ostrinia nubilalis. (Wis. Ins. Sur.). ILLINOIS - Adults varied 0-164 (average 18) per 100 corn plants in east district. (Ill. Ins. Rpt.). OHIO - Reported on sweet corn in Auglaize County. (Brown, Delaplane). Although common on field corn over much of State, not usually numerous on plants unless aphids or Ostrinia nubilalis also present. (Rose).

CORN LEAF APHID (Rhopalosiphum maidis) - IDAHO - Abundant and general on leaves and stalks of sweet corn in Canyon County. Some predator control evident. (Bechtolt). Heavily damaged whorls and newly emerged tassels of milo at Huston, Canyon County. Lady beetles, lacewings and syrphid fly larvae abundant. (Homan). NEVADA - Varied 10-150 per sweep on grain in Mason Valley, Lyon County. (Cooney). COLORADO - Can be found in all corn and sorghum fields in Arkansas Valley; however, lady beetle populations (all stages) high and aphid numbers considered unimportant. (Schweissing). WYOMING - Noted for first time this season on corn plants in Platte County; fields averaged 15 percent infested. (Marks). NEW MEXICO - Light on barley near Laplata, San Juan County. (Heninger). NEBRASKA - Large numbers present on whorls of sorghum; light on tassels of corn. No damage indicated. (Rhine, Roselle). SOUTH DAKOTA - Numbers increased on corn in Hutchinson County (see CEIR 15(29):781). Averaged over 300 per tassel on corn in McCook County. (Nearman, July 19). MINNESOTA - Found on all cornstalks checked for Ostrinia nubilalis (European corn borer) in southwest, south central, southeast, west central and central districts; numbers light on whorls and emerging tassels. (Minn. Ins. Rpt.). WISCONSIN - Infested 50-100 percent of corn plants examined in eastern Dane, northern Dodge, portion of Fond du Lac, Sheboygan, Calumet,

Winnebago and Green Lake Counties. More variation exists in southwest area, with some fields heavily infested and others free of aphids. Winged forms becoming more numerous; some mummies appearing. Few lady beetles noted. Colonies forming on silks and ear tabs on some sweet corn. (Wis. Ins. Sur.). IOWA - Heavy on sorghum in Woodbury County; averaged 500 per plant on 25-30 inch plants. Heavy on corn in Crawford County. (Iowa Ins. Inf., July 19). MISSOURI - Infesting nearly 100 percent of corn plants observed in west central and southwest districts, but numbers remain low (5-50 per plant). (Houser). ILLINOIS - No colonies found on corn plants in northwest; colonies present on 0-4 (average 0.47) percent of plants in west district, 0-20 (average 1.4) in central district, 0-40 (average 5.67) percent in east district and 0-12 (average 1.5) percent of plants in west-southwest district. Infestation varies from very small colony to heavy populations discoloring leaves or tassels of plants. (Ill. Ins. Rpt.). INDIANA - Generally light throughout State. As high as 80 percent of corn infested in some fields in southernmost counties, but heavy to severe populations average only 1-2 percent of total corn infested. (Saugstad). Isolated, light to moderate infestations present as far north as Wells County area, northeast. Ranged 10-50 per tassel on most infested plants, with occasional plant having up to 3,000 aphids. (Huber). OHIO - Populations, apparently Rhopalosiphum maidis increasing on field corn; in field near Ashville, Pickaway County, aphids present on approximately 50 percent of plants inspected; concentrations of aphids on one-third of these plants so great that parts of leaves and stalk concealed. About 70 percent of corn plants in field in Meigs County infested but instances of great concentrations of aphids fewer on individual plants. Winged forms noted in both fields. Lady beetles and few syrphid fly larvae found feeding on aphids. (Rose). Increased numbers of aphids reported on field corn near London, Madison County. (Wood). NEW YORK - Appearing in tassels of sweet corn in Hudson Valley. (N.Y. Wkly. Rpt., July 19). MARYLAND - Light to date on field corn but expected to increase in all sections. (U. Md., Ent. Dept.). ALABAMA - Heavy on grain sorghum in Perry County. Large numbers of Chrysopa oculata (golden-eye lacewing), Hippodamia convergens (convergent lady beetle) and Coccinella novemnotata (a lady beetle) feeding on aphids. (McQueen).

ENGLISH GRAIN APHID (Macrosiphum avenae) - MINNESOTA - Populations increased sharply in some grain fields in west central, southwest, central, southeast and northwest districts. Increases not evident in all fields, generally only in more advanced fields well headed out and beginning to turn; ranged 80-2,240 per 100 sweeps. Present on ripening heads of wheat and could cause economic loss. Predators very numerous in some fields; may aid in reducing aphid numbers. Evaluation of predator population and time of harvest should be considered before application of control measures. (Minn. Ins. Rpt.). NORTH DAKOTA - Considerable buildup occurred on wheat in southeast and east central areas. Treatment not recommended at present. (Frye, Thomasson). NEVADA - Very light on grain in Mason Valley, Lyon County. (Cooney). IDAHO - Parasitized and diseased aphids noted at Jerome, Jerome County. (Priest). Wheat in eastern half of Twin Falls County heavily infested; many fields treated. (Youtz).

GREENBUG (Schizaphis graminum) - MINNESOTA - Increased sharply in more advanced fields of grain; ranged up to 50 per sweep in some fields of oats in west central district. Damage apparent in some fields. Control probably not justified as harvest will begin soon. (Minn. Ins. Rpt.). TEXAS - Easily found on western wheatgrass (Agropyron smithii) in panhandle area; populations much heavier than during summer of 1964. (Daniels).

CHINCH BUG (Blissus leucopterus) - ILLINOIS - Adults present on 0-8 percent of corn plants out in fields at rate of 0-16 per 100 plants in east district. (Ill. Ins. Rpt.). INDIANA - Adults dispersed and present in alfalfa, soybeans, roadside grasses and corn throughout east central area. (Huber).

WHEAT STEM MAGGOT (Meromyza americana) - SOUTH DAKOTA - Some damage to spring wheat noted in north central and northeast districts. Number of white heads per 100 square feet ranged from low of 11 at Haven, Potter County, to high of 205 at Conde, Spink County. Estimated percent loss ranged from 0.5 at Haven to high of 8 at Conde. (Kieckhefer).

WHEAT STEM SAWFLY (Cephus cinctus) - MICHIGAN - Some light damage to mature wheat noted in 4 fields in Monroe County. Downed stalks averaged less than 1 percent in 3 fields, approximately 1 percent in other field checked. (Laser, Newman).

FIELD CRICKETS (Gryllus spp.) - NORTH DAKOTA - Averaged 5 per square yard in margin of field of wheat near Charbonneau, McKenzie County. (Frye, Thomasson).

MOLE CRICKETS - GEORGIA - Destroyed stand of millet in southern part of State. (Jordan).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - COLORADO - Very small numbers noted on lower leaves of corn in Bent and Otero Counties. May not be problem this season. (Schweissing). IDAHO - Population of 1-8 per leaf reported in alfalfa seed field near Parma, Canyon County. (Waters). Abundant and general on sweet corn in Canyon County; may become serious problem within 2-3 weeks. (Bechtolt).

PEA APHID (Acyrthosiphon pisum) - MINNESOTA - Populations on alfalfa so high accurate counts cannot be obtained; estimates for all districts range 500-15,000 per 100 sweeps. Predators increased but not keeping pace with aphid populations. (Minn. Ins. Rpt.). WISCONSIN - Ranged 15-20 per sweep in alfalfa in northeastern counties, 30-40 per sweep in southern and southwestern counties. Parasities and predators appearing slowly. (Wis. Ins. Sur.). INDIANA - Trace numbers present on third-growth alfalfa in southern half of State; ranged 2-14 per sweep on second-growth alfalfa in northern half of State. (Huber, Saugstad, White). MISSOURI - Numbers increased slightly on alfalfa in Vernon County; averaged 3,000 per 100 sweeps. (Houser). NEBRASKA - Counts low in alfalfa in southwest and central areas. (Manglitz). SOUTH DAKOTA - Averaged over 6,000 per 100 sweeps in alfalfa west of Arlington, Kingsbury County. (Novotny, July 19). Averaged 60 per 100 sweeps of second-growth alfalfa near Spearfish, Lawrence County. (Jones). WYOMING - Ranged 450-600 per 100 sweeps in alfalfa in Platte, Goshen and Laramie Counties. (Marks). COLORADO - Ranged 0-2,000 per 100 sweeps in alfalfa in Prowers, Bent, Otero and Crowley Counties; this is decrease from previous reports. Aphid predators decreasing. (Schweissing). A. pisum populations leveled off in Mesa County where second cutting underway and numbers very light in Garfield County. (Bulla). NEW MEXICO - Moderate to heavy in alfalfa checked near Farmington, San Juan County, with some damage evident. Lighter population noted in alfalfa near Laplata. (Heninger). UTAH - Population remains light in Iron County. (Knowlton). NEVADA - Generally light in all alfalfa checked in Churchill, Lyon and Pershing Counties; highest count of 100 per sweep found in one field in Mason Valley, Lyon County. (Cooney, Martinelli). MARYLAND - Increasing slightly in alfalfa, up to 50 per sweep, in Frederick County. (U. Md., Ent. Dept.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Increasing noticeably in alfalfa; three to fourfold increases noted in several fields with counts of over 100 per sweep. Winged forms very common in some fields. Colonies present in alfalfa in northern Grant and Iowa Counties not infested during 1964 season. (Wis. Ins. Sur.). ILLINOIS - Averaged 60 per 100 sweeps in field of alfalfa in Ogle County; mostly winged forms. (Ill. Ins. Rpt.). MISSOURI - Averaged 100 per 100 sweeps in alfalfa checked in southwest and west central districts. (Houser). ARKANSAS - Increased on alfalfa due to reduced rainfall; one field in Crittenden County treated. Increasing in northwest area. (Ark. Ins. Sur.). OKLAHOMA - Ranged 300-500 per 10 sweeps in alfalfa in Washita County; reported heavy in Grady County. Ranged 15-280 per 10 sweeps in alfalfa checked in Tulsa, Le Flore, Sequoyah and Payne Counties. (Okla. Coop. Sur.). NEBRASKA - Counts per 50 sweeps in alfalfa by county as follows: Dundy 0-28 (average 6), Red Willow 13-38 (average 25), Howard 3-10 (average 6). (Manglitz). SOUTH DAKOTA - Wingless and winged forms present in alfalfa underplanted in field of wheat west of Arlington, Kingsbury County. No estimate of numbers made, but honeydew easily observed. (Novotny, July 19). Averaged 100 winged and wingless forms per 100 sweeps in alfalfa east of Willow Lake in southeast Clark County. (Jones, July 19). COLORADO - Numbers and distribution on alfalfa increasing in Prowers, Bent, Otero, and Crowley Counties; range 0-50 per 100 sweeps. Aphid predators decreasing. (Schweissing). No T. maculata found on Mesa County alfalfa. (Bulla).

ARIZONA - Spotty populations increasing and affecting alfalfa in Graham County; averaged 8 per trifoliate leaf. (Ariz. Coop. Sur.). NEVADA - None observed in Lyon or Pershing Counties. (Cooney, Martinelli).

LYGUS BUGS (Lygus spp.) - IDAHO - Increasing on alfalfa in Canyon County; second insecticide applications made on many seed fields, many others should be treated. (Waters). WYOMING - Adults and nymphs ranged 70-85 per 100 sweeps in alfalfa in Platte, Goshen and Laramie Counties. (Marks). COLORADO - Numbers low on alfalfa in Prowers, Bent, Otero and Crowley Counties. (Schweissing). NEW MEXICO - Ranged 5-30 per 25 sweeps in San Juan County alfalfa (Heninger), and 15-35 adults and nymphs per 25 sweeps in alfalfa near Deming, Luna County (Mathews). ARIZONA - Nymphs increasing on blooming alfalfa in Graham, Greenlee and Maricopa Counties; range 600-2,000 per 100 sweeps. (Ariz. Coop. Sur.). NEVADA - Varied 2-50 per sweep in alfalfa in Churchill, Lyon and Pershing Counties. Highest counts found in Fallon and Stillwater areas, Churchill County. (Cooney, Martinelli).

TARNISHED PLANT BUG (Lygus lineolaris) - MARYLAND - Adults moderate on alfalfa in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - INDIANA - Ranged from 3 per 5 sweeps to 8 per sweep in some alfalfa in northern half of State; nymphs and adults approximately equal in numbers. (Huber, White). NEBRASKA - Light in alfalfa in central and southwest areas. (Manglitz). SOUTH DAKOTA - Averaged 42 adults and nymphs per 100 sweeps in second-growth alfalfa near Spearfish, Lawrence County. (Jones).

SAY STINK BUG (Chlorochroa sayi) - ARIZONA - Moderate to heavy infestations of 10-40 per 100 sweeps found in most Graham County alfalfa. (Ariz. Coop. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - NEBRASKA - Averaged approximately 10 per 50 sweeps in alfalfa in Dundy, Red Willow and Howard Counties. (Manglitz). MISSOURI - Adults and nymphs ranged 100-200 per 100 sweeps in alfalfa in Vernon, Jasper, Barry and Greene Counties. (Houser). WISCONSIN - Populations in alfalfa vary according to time of cutting; exceed 100 per sweep in uncut or early cut fields, numbers much lower in more recently cut fields. Yellowing increasingly more evident. (Wis. Ins. Sur.). INDIANA - Yellowing of second-growth alfalfa apparent in northern half of State. Ranged as high as 16 per sweep (mostly nymphs) in localized portion of area. Adults light on third-growth alfalfa 4-8 inches high in southern half of State. (Huber, Saugstad, White). MARYLAND - Ranged 2-25 per sweep on alfalfa in Frederick and Queen Annes Counties; damage evident in several fields. (U. Md., Ent. Dept.). DELAWARE - Increased noticeably on soybeans in areas of Kent County. (Burbutis, Woodall). NEW YORK - Continues to damage alfalfa throughout State; particularly numerous in southern tier of counties and in Hudson River Valley. Growers urged to treat so as to obtain as much alfalfa as possible this drought year. (N.Y. Wkly. Rpt.). VERMONT - Easily found on legumes in all areas. Some injury noticeable. (MacCollom, July 19).

LEAFHOPPERS - NORTH CAROLINA - Damage becoming noticeable on peanuts in untreated fields in Coastal Plain growing areas. (Robertson). GEORGIA - Moderate to heavy on peanuts in Worth County. (McGill, French).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Increasing in alfalfa checked in east central area. Ranged 9-15 per 10 sweeps in Muskogee, Sequoyah and Le Flore Counties; ranged 3-4 per 10 sweeps in Tulsa and Payne Counties. Widespread but light in soybeans in east central area. (Okla. Coop. Sur.). ARKANSAS - Minor girdling damage to alfalfa and soybeans reported in eastern area. (Ark. Ins. Sur.).

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Very serious on first-crop hay in San Juan County; damage heavy in many fields. (Albert). Average counts per 25 sweeps in San Juan County fields following first cutting of alfalfa as follows: Farmington, 2-9 larvae, 1 adult; Laplata, 1-5 larvae, 1 adult. (Heninger). COLORADO - Very few observed on alfalfa in Mesa County. (Bulla). UTAH - Damage to

alfalfa heaviest in 10 years in Salt Lake County. (Parrish, Knowlton). NEVADA - Larvae and adults low in all alfalfa checked in Churchill, Lyon and Pershing Counties. (Cooney). SOUTH DAKOTA - All stages present on second-growth alfalfa near Spearfish, Lawrence County; third-stage larvae predominate. Larvae ranged 300-400 and adults 60-80 per 100 sweeps in untreated fields. Some damage occurring to second-growth alfalfa, but not anticipated to be substantial if high temperatures of 95-100°F. continue. (Jones). OHIO - First-generation adults averaged 8 per sweep near Canfield, Mahoning County. (Flessel). DELAWARE - Adults still present in alfalfa in most areas of State. (Burbutis, Woodall).

BLISTER BEETLES - OHIO - Epicauta pestifera (margined blister beetle) averaged 1 per 5 sweeps in field of alfalfa near Harrisonville, Meigs County. (Rose). SOUTH DAKOTA - Probably Lytta stygica damaged 5-10 percent of soybean plants in fields in Beadle, Deuel, Lincoln, McPherson, Miner and Yankton Counties. Infestations mostly spotty in fields, thus damage estimated. (Kantack, July 19). MISSOURI - Epicauta sp. adults causing heavy damage in small isolated spots within fields of alfalfa and soybeans in southwest and west central districts. (Houser). OKLAHOMA - E. occidentalis and Epicauta sp. noted feeding on soybeans in Bixby area, Tulsa County. Epicauta sp. reported heavy on soybeans in local areas of Ottawa County. (Okla. Coop. Sur.). NEW MEXICO - Epicauta sp. adults ranged 0-3 per 25 sweeps in San Juan County. (Heninger). IDAHO - E. puncticollis ranged 1-2 per sweep on spring rape in Idaho County. (Cook).

BEAN LEAF BEETLE (Cerotoma trifurcata) - OKLAHOMA - Light numbers noted in all fields of soybeans checked in east central area. (Okla. Coop. Sur.). NORTH CAROLINA - This and Popillia japonica (Japanese beetle) commonly observed feeding on soybeans in Hyde, Washington and Beaufort Counties. Leaf feeding generally noticeable but not sufficient to cause damage. (Mount).

PALE-STRIPED FLEA BEETLE (Systena blanda) - COLORADO - Ranged 50-100 per 100 sweeps on alfalfa in Prowers, Bent, Otero and Crowley Counties. Injury apparent but not generally serious. (Schweissing).

ALFALFA CATERPILLAR (Colias eurytheme) - MARYLAND - Light to medium on alfalfa surveyed in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). WISCONSIN - Larvae more common in alfalfa in southwest area; averaged 1 per sweep in many fields. (Wis. Ins. Sur.). NEW MEXICO - Light to moderate in San Juan County alfalfa. (Heninger).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - OREGON - Light to heavy in some alfalfa near Grants Pass, Josephine County. Feeding by present generation appears about complete; most larvae beginning to pupate June 22. (Larson). NEVADA - This and Heliothis zea (corn earworm) light and spotted in alfalfa in Fallon and Swingle Bench areas of Churchill County. (Cooney, Martinelli).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Light to medium on soybeans in Queen Annes and Worcester Counties. Moths common in blacklight trap near Snow Hill, Worcester County. (U. Md., Ent. Dept.).

BEET ARMYWORM (Spodoptera exigua) - ALABAMA - Light larval populations feeding on soybeans in Monroe County; also feeding on rough pigweed in fields. (Culpepper et al.).

ALFALFA LOOPER (Autographa californica) - UTAH - Adult catches in blacklight trap at Logan, Cache County, decreased markedly. (Davis, Knowlton).

ZEBRA CATERPILLAR (Ceramica picta) - NEVADA - Early stage larvae varied 2-7 per sweep in several fields of alfalfa in Fallon and Stillwater areas, Churchill County. (Cooney, Martinelli).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - GEORGIA - Larvae averaged 30 per 100 terminals on peanuts in Early County. (Morgan). ALABAMA - Inspection of fields in

Geneva and Houston Counties revealed light infestations. More important Heliothis zea (corn earworm) and Anticarsia gemmatalis (velvetbean caterpillar) not present in any field observed. (Bond).

GARDEN WEBWORM (Loxostege similalis) - MISSOURI - Full-grown larvae averaged 100 per 100 sweeps in alfalfa in west central and southwest districts; damage light. Only occasional web found in most soybeans in same areas, but heavy damage reported in occasional field. Adults plentiful in most fields. (Houser). ARKANSAS - Second and third-stage larvae present in some fields of alfalfa in Washington County; ranged 150-200 per 100 sweeps of 15-inch net in one field. (Ark. Ins. Sur.).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Reported heavy in alfalfa in Muskogee County; averaged 8 per 10 sweeps in Tillman County. (Okla. Coop. Sur.).

DIAMONDBACK MOTH (Plutella maculipennis) - IDAHO - Larvae ranged 5-10 per sweep on spring rape in Idaho County. (Cook). Adults active in Moscow area, Latah County. (Portman).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - CONNECTICUT - Larval damage found on unsprayed trees at New Haven. (Savos, July 21). NEW YORK - Decided increase noted in number of moths taken in bait traps in eastern area July 14 indicating summer-brood moths in flight. New larval entrances expected about July 25. Last moth emerged in cage in Niagara County July 15. (N.Y. Wkly. Rpt.). MICHIGAN - Second-brood adult found in rearing cage in St. Joseph County July 12. (Conrad). UTAH - Occasional adult taken in light trap at Benjamin, Utah County. (Knowlton). NEW MEXICO - Light to heavy numbers damaging apples and pears in improperly or untreated orchards in Farmington-Aztec area, San Juan County. Many trees had 70-95 percent of fruit damaged. (Heninger).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - CONNECTICUT - Adults taken in traps indicate second-generation larvae may be active. Growers with history of late-season problems should check susceptible varieties carefully. (Savos, July 21).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - NEW YORK - Second-brood larvae entering twigs in early zones of Monroe County; still between broods in late zones. Entering peach twigs in Niagara County and eggs readily found in some unsprayed quince orchards. (N.Y. Wkly. Rpt., July 19).

YELLOW-NECKED CATERPILLAR (Datana ministra) - INDIANA - Larvae heavy on apples in one area of Cass County. (Matthew).

A PHYCITID MOTH (Acrobasis tricolorella) - MICHIGAN - Larvae, probably this species, feeding inside cherries in many orchards in Oceana County. (Wooley).

RESPLENDENT SHIELD BEARER (Coptodisca splendoriferella) - WISCONSIN - Adult emergence beginning in untreated orchard at Madison. Larval mines reduced apple leaf areas considerably. Population extremely heavy and largest found in over 25 years. (Wis. Ins. Sur.).

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - Emergence heavier than usual in Chittenden County. (MacCollom, July 19). CONNECTICUT - Adult emergence increased drastically, indicating probable peak in most orchards. In areas where population low due to drought, peak of adult emergence can be expected later. (Savos, July 21). NEW YORK - Adult emergence increased in eastern area July 12; 2-3 times level of preceding week. Females more numerous than males as of July 15. No general increase noted in Monroe and Niagara Counties. Emergence heavy in Clinton County. (N.Y. Wkly. Rpt., July 19). WISCONSIN - Total of 5 adults caught in ammonia bait trap in untreated apple orchard and 41 taken from trap in crab apple tree. Adults and nearly grown larvae numerous in neglected orchard in western

Dane County. Larvae most abundant. (Wis. Ins. Sur.). MINNESOTA - Now emerging in Duluth area. Controls recommended. (Minn. Ins. Rpt.).

CHERRY MAGGOT (Rhagoletis cingulata) - NEW YORK - Considerable numbers appearing in some blocks where spray schedule not followed in Monroe County. Becoming serious problem along State Route 104 in Niagara County where many small blocks unsprayed. (N.Y. Wkly. Rpt., July 19). MICHIGAN - Substantial numbers still emerging in orchards in Oceana County. (Wooley).

EUROPEAN APPLE SAWFLY (Hoplocampa testudinea) - NEW HAMPSHIRE - Larvae collected in abandoned orchard at East Kingston, Rockingham County. Det. by D. W. S. Sutherland, confirmed by D. R. Smith. This is a new State record. (Sutherland, June 18).

JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Large numbers skeletonizing leaves of cherry, apple and other trees in yards in Blacksburg, Montgomery County. (Kosztarab, July 19).

GREEN JUNE BEETLE (Cotinis nitida) - OKLAHOMA - Continues to damage ripening fruit in Payne, Noble, Woodward and Garvin Counties. (Okla. Coop. Sur.). ARIZONA - Heavy damage observed on stone fruits in Pima, Graham and Cochise Counties. (Ariz. Coop. Sur.).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Medium on plum fruit in Willows; Glenn County. (Cal. Coop. Rpt.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Mostly light on apple foliage in orchards checked near Farmington, San Juan County. Unspecified species heavy and curling leaves in untreated or improperly treated apple orchards in same area. (Heninger).

PEAR PSYLLA (Psylla pyricola) - OREGON - Building up in unsprayed pear orchards in Jackson County. Honeydew heavy on leaves and fruit. (Larson, Berry).

EUROPEAN RED MITE (Panonychus ulmi) - MASSACHUSETTS - Beginning to bronze leaves in some orchards in western section where controls were poor. (Wave, July 17). NEW YORK - Very heavy in many Monroe County apple orchards; also found in number of prune and pear orchards. Becoming general problem in Orleans County. Easily found but not generally causing much injury in Niagara County. (N.Y. Wkly. Rpt., July 19). MARYLAND - Extremely heavy on several apple varieties in large home planting at Annapolis, Anne Arundel County. Also on plum and peaches in same area. (U. Md., Ent. Dept.). OHIO - Increasing at Wooster, Wayne County, where some counts reached 100 or more per leaf. Discolored leaves common. (Forsythe). Similar condition noted near Zaleski, Vinton County, with estimated 75-150 mites per leaf on unsprayed Rome Beauty apple trees. Sprayed trees in same orchard had very few mites. (Rose). INDIANA - Building up on apples in Knox County area. Adults and nymphs range as high as 60 per leaf in some orchards. (Cleveland). COLORADO - Taken for first time in orchard on Rogers Mesa, Delta County. Up to 10 adults and 10-20 eggs per leaf in 100-acre infested area. Controls underway where high populations present. (Bulla).

ORCHARD MITES - CONNECTICUT - Panonychus ulmi (European red mite) and Tetranychus telarius (two-spotted spider mite) hard to find in most orchards. Egg laying continues at high rate for both species in experimental block in New Haven. (Savos, July 21). MISSOURI - P. ulmi and T. telarius very low in orchards in central section. Slight buildup in southeast section is distinct threat due to lack of rain. (Wkly. Rpt. Fr. Grs., July 21). COLORADO - T. telarius increasing on bindweed cover in Delta County. Controls underway. (Bulla). OREGON - T. telarius and P. ulmi serious in apple and pear orchards in Douglas County. (Vertrees). T. telarius building up in peach orchards in Lane County. (Tinker).

APPLE RUST MITE (Aculus schlechtendali) - NEW YORK - Extremely high numbers found on 5-year-old apple trees examined in Clinton County July 13. Foliage distinctly bronzed. No other mite species present. Noted for first time this season in Monroe County; noted July 15 in one Niagara County orchard. (N.Y. Wkly. Rpt.). MICHIGAN - This and Epitrimerus pyri (pear rust mite) found in orchard near Byron Center, Kent County. (Wooley).

PEAR RUST MITE (Epitrimerus pyri) - OREGON - Russeting pears in some improperly sprayed orchards in Jackson County. (Larson, Berry).

A PLUTELLID MOTH (Argyresthia eugeniella) - FLORIDA - Larvae generally infesting and severely damaging fruit of cattley guava at Miami, Dade County. (Herrman, July 15).

Citrus Insect Situation in Florida - Mid-July - CITRUS RUST MITE (Phyllocoptruta oleivora) infested 45 percent of groves (norm 65 percent); 28 percent economic (norm 41 percent). Although below average for State as whole, spotty heavy infestations common. Further increase expected through mid-August; will be more evident on fruit than leaves. Highest districts west, south and central. CITRUS RED MITE (Panonychus citri) infested 76 percent of groves (norm 77 percent); 51 percent economic (norm 50 percent). Recent sharp increase will continue through July causing summer peak one month later than usual. Population expected to be above average and in high range until mid-August. All districts high. TEXAS CITRUS MITE (Eutetranychus banksi) infested 88 percent of groves (norm 72 percent); 75 percent economic (norm 46 percent). Highest recorded population continues. Decrease started but spotty heavy infestations expected in all districts. All districts high. GLOVER SCALE (Lepidosaphes gloverii) infested 82 percent of groves; 32 percent economic. Will decrease but population will continue above normal. Highest districts south, east and central. BLACK SCALE (Saissetia oleae) infested 89 percent of groves; 65 percent economic. Highest population in 15 years of record. Decrease expected from mid-July to mid-August. All districts high. CHAFF SCALE (Parlatoria pergandii), YELLOW SCALE (Aonidiella citrina), a SNOW SCALE (Unaspis citri) and a LESSER SNOW SCALE (Pinnaspis stachani) are above normal; none in high range and all decreasing. MEALYBUGS have reached summer peak much above normal level. Population will decrease but will be in high range until mid-August. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred)).

FRUIT FLIES (Anastrepha spp.) - FLORIDA - Joint State-Federal efforts to delimit and evaluate infestation of A. suspensa continue. No commercial citrus infested thus far. (Fla. Coop. Sur.). One adult male of A. edentata, a native species, taken in McPhail trap in sapodilla on Elliott Key, Dade County. (Humphries)

MEXICAN FRUIT FLY (Anastrepha ludens) - MEXICO - Total of 13 native adults trapped at Tijuana and 3 at Ensenada for season to July 2. Fourth to seventh marked, sterile male fly releases made in Tijuana and fourth to sixth releases made in Ensenada; 435,204 sterile marked flies recaptured in traps during June. (PPC Mex. Reg., June Rpt.).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - MEXICO - Total of 3,083 traps inspected 5,678 times negative. (PPC Mex. Reg., June Rpt.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Chemical Control Zone - Inspection of 158,394 citrus trees on 1,667 properties in States of Nuevo Leon, Tamaulipas, Baja California and Sonora revealed one light infestation in Linares, Nueve Leon, and one light infestation in Hermosillo, Sonora; 82,445 were nursery trees. Second spray treatment applied to 3,535 trees on 13 properties in Municipios Villagran, Guemez and Victoria, Tamaulipas, revealed 716 infested trees on 12 properties. Five trees in Municipio Villagran yielded 6 infested leaves; leaves destroyed. Early detection of this infestation particularly important due to proximity to chemical control zone. Parasite liberation needed on 40 properties in States of Campeche, Guerrero, Morelos, Sinaloa, Tabasco, Yucatan and Zacatecas and the Territory of Baja California; possibility of parasite captures on 26 properties in States of Colima, Michoacan and Vera Cruz and Territory of Quintana Roo. Total

of 403,700 Prospaltella opulenta (a eulophid) received from Ciudads Victoria, Tamaulipas and Apatzingan, Michoacan; 385,800 released in Villahermosa, Tabasco and Durango, Durango. (PPC Mex. Reg., June Rpt.).

SWALLOWTAIL BUTTERFLIES (Papilio spp.) - ARIZONA - Large populations appearing in backyard citrus plantings in Pima and Maricopa Counties. (Ariz. Coop. Sur.).

HICKORY SHUCKWORM (Laspeyresia caryana) - GEORGIA - Reported increasing throughout pecan areas of State. (Buttram). Moderate in Telfair County. (Fletcher). ALABAMA - Early damage caused pecan trees to drop nuts in varying degrees in Lee and other counties. (Bagby et al.).

PECAN NUT CASEBEARER (Acrobasis caryae) - GEORGIA - Moderate on pecans in Telfair County. (Fletcher).

WALNUT CATERPILLAR (Datana integerrina) - VIRGINIA - Defoliated pecan tree in Nansemond County. (Isakson, Smith, July 16). OKLAHOMA - Noted on pecans in Garvin County. (Okla. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Heavy damage occurring on pecan, walnut, hickory and persimmon trees in north central, northeast, east central and south central areas. (Okla. Coop. Sur.).

PECAN SPITTLEBUG (Clastoptera achatina) - ALABAMA - Nymphs heavy on nuts and buds of 5 pecan trees in Jackson County. (White).

APHIDS - GEORGIA - Black and yellow species heavy on pecans in many parts of southwest district and light to heavy in south. (Buttram, Fletcher, French). OKLAHOMA - Unspecified species ranged 2-3 per leaf on walnut trees checked in Payne County. (Okla. Coop. Sur.). NEW MEXICO - Unspecified species heavy on black walnut trees in Farmington-Aztec area, San Juan County. Honeydew very heavy. (Heninger).

WALNUT HUSK FLY (Rhagoletis completa) - OREGON - Adults noted in walnut trees in Jackson County. Detection surveys underway in uninfested areas of State. (Larson).

GRASSHOPPERS (Melanoplus spp.) - OKLAHOMA - M. bivittatus (two-striped grasshopper) and M. differentialis (differential grasshopper) reported feeding on lower leaves of pecan trees in Garvin County. (Okla. Coop. Sur.).

A FALSE POWDER-POST BEETLE (Amphiderus cornutus) - NEVADA - Adults heavy on almond trees at east Las Vegas, Clark County. (Zoller).

BLUEBERRY MAGGOT (Rhagoletis mendax) - MASSACHUSETTS - Very numerous and laying eggs in ripening fruit in neglected blueberry plantings in southeastern section. (Tomlinson, July 16). NEW JERSEY - Adults still emerging strongly, especially in Rubel and Jersey blocks. Continued controls recommended. (Ins.-Dis. Newsltr.). MICHIGAN - Adults flying in considerable numbers and expected to continue for 10-14 days. (Burger).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Populations much higher than normal on cultivated blueberries in Berrien, Muskegon, Ottawa, Van Buren and Allegan Counties and will cause concern if pattern continues. (Burger, Newman, Nelson).

CRANBERRY FRUITWORM (Acrobasis vaccinii) - MASSACHUSETTS - Peak flights and heavy egg laying occurred on July 14-16 in southeastern section. (Tomlinson).

FIREWORMS - NEW JERSEY - Severe infestations of Rhopobota naevana (black-headed fireworm) and Acleris minuta (yellow-headed fireworm) found in some unsprayed cranberry bogs. (Ins.-Dis. Newsltr.).

GRAPE BERRY MOTH (Paralobesia viteana) - MISSOURI - May increase in commercial vineyards. (Wkly. Rpt. Fr. Grs., July 21).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - CONNECTICUT - Feeding on egg plants and tomatoes in home gardens. (Savos.). NEW YORK - Egg masses still present on potatoes in Suffolk County. (N.Y. Wkly. Rpt., July 19). MARYLAND - Larvae causing conspicuous damage to several commercial tomato fields in Worchester County. (U. Md., Ent. Dept.). MICHIGAN - First-generation larvae nearing pupation on research plots in Clinton County. Second-brood adults will emerge in 10-14 days. (Wells).

BLISTER BEETLES - GEORGIA - Infesting tomatoes in Spalding County. (Dupree). MISSOURI - Epicauta spp. adults causing moderate to severe damage to gardens in southwestern district. (Houser). OKLAHOMA - E. conferta reported damaging tomato vines in Payne County. Unspecified species reported moderate in home gardens in Choctaw County. (Okla. Coop. Sur.). IDAHO - E. puncticollis infestations general; scattered damage in potato fields in Bonneville County. (Weston). Numerous in Boise area. (McCarthy).

Survey to Determine Wireworm Populations During the Fall and Spring of 1964-1965 Season and Damage to Potatoes During Spring, 1965, in Vicinity of Charleston, South Carolina - SOUTHERN POTATO WIREWORM (Conoderus falli) constituted 93 percent of larvae found in cultivated soil in 19 untreated fields on 13 farms during October 1964. The all-species population in various fields ranged 0-10.7 larvae per square foot in top 6 inches of soil; average 2.7. Examination at packing sheds during June 1965 of 200 tubers from each of 10 farms revealed that 0 to 19.7 percent, by weight, showed wireworm injury (feeding of any degree) and 0 to 6.4 percent showed enough injury to be classed as "damaged" by Federal-State market inspectors. Proportion showing injury averaged 6.5 percent and that showing damage 1.6 percent. Shipping-point inspection certificates issued by Federal-State inspectors to Charleston area potato growers during June 1965 showed that none of 290 lots of tubers inspected had wireworm damage in excess of 6 percent (current U.S. Grade 1 tolerance allowance for "damage" due to all effects). Damage of 3-6 percent occurred in 5.9 percent of lots and damage of 1.5 to 2.9 percent in 35.5 percent. Wireworm population and degree of damage to potatoes during 1964-1965 season were about the same as occurred during preceding 7 years, but were much lower than that prevailing during 1956 and 1957. (A. Day, P.M. Andres, W.J. Reid).

GREEN PEACH APHID (Myzus persicae) - RHODE ISLAND - This and Macrosiphum euphorbiae (potato aphid) building up serious populations in fields in Kingston area, Washington County. (Kerr). DELAWARE - Present on peppers in Kent and Sussex Counties. (Burbutis, Woodall). MARYLAND - Light to medium on peppers in Worchester and Wicomico Counties. (U. Md., Ent. Dept.). WISCONSIN - Colonies forming on untreated potatoes in Grant County. (Wis. Ins. Sur.). UTAH - This and M. euphorbiae moderate on potatoes at North Logan, Cache County. (Knowlton). CALIFORNIA - Nymphs and adults heavy on eggplant in Fresno, Fresno County. (Cal. Coop. Rpt.).

POTATO APHID (Macrosiphum euphorbiae) - DELAWARE - Present on peppers and tomatoes in New Castle County. (Burbutis, Woodall). MARYLAND - Heavy in several commercial tomato fields on Eastern Shore. (U. Md., Ent. Dept.). OHIO - Both pink and green color phases numerous on unsprayed tomato plants at Marietta, Washington County. Damage light. (Racer, Rose). COLORADO - Aphids, mainly this species, low with 0-30 per 100 leaves on potatoes in Weld County. Could continue low due to prevailing weather. (Jenkins).

Aphids on Potatoes in Maine - Small populations on untreated potatoes in Presque Isle area, Aroostook County, continue to increase at considerably reduced rate due to action of entomogenous fungi. Average of 0.43 aphid on 3 leaves per plant with 24 percent of plants infested. This is 1.1 times the average and 1.4 times the percent of plants infested last week. Populations on untreated potatoes examined in other areas increased at usual rate. Macrosiphum euphorbiae (potato aphid) predominates followed by Myzus persicae (green peach aphid) and Aphis nasturtii (buckthorn aphid). (Shands et al.).

POTATO PSYLLID (Paratrioza cockerelli) - WYOMING - Adults averaged 2-4 per 100 sweeps in both untreated and early systemic treated fields of potatoes in Goshen and Laramie Counties. Nymphs averaged 0 per 100 leaves in treated fields and 3-8 per 100 leaves in untreated fields. (Marks). COLORADO - Counts generally low in Weld County potato fields with regular timed topical treatments. Noticeble buildup in fields with systemic treatment. Counts high in some fields in Eaton area. (Urano). Adults vary 0-4 per 100 sweeps in tomatoes in Arkansas Valley. High in Newdale and Fowler areas. (Schweissing). NEW MEXICO - Spotted heavy infestations noted in tomato patches in Farmington-Aztec area, San Juan County. Several plants dying or appear to have psyllid yellows. (Heninger).

SAY STINK BUG (Chlorochroa sayi) - NEVADA - Medium and causing stem wilting on potatoes in Diamond Valley, Eureka County. (Hampton).

BEET LEAFHOPPER (Circulifer tenellus) - UTAH - Curly top disease ranges 5-20 percent in early market tomatoes in southern section. Trace of curly top in canning tomatoes in northern section. (Dorst).

POTATO LEAFHOPPER (Empoasca fabae) - NEW JERSEY - Counts from 10 fields in central section ranged 22-300 and averaged 118 per 25 sweeps on July 23. (Ins.-Dis. Newsltr.). WISCONSIN - Nymphs averaged about 3 per leaflet in commercial potato field in Grant County. Populations vary on lima beans with some treatment necessary in Rock County and southeastern counties. (Wis. Ins. Sur.).

STALK BORER (Papaipema nebris) - SOUTH DAKOTA - Damaged 100 percent of potato stalks in some small gardens in Brookings County. Also infesting few tomato stems in Brookings and McCook Counties. (Kantack, July 16). WISCONSIN - Several inquiries received concerning larvae in rhubarb and raspberry canes. (Wis. Ins. Sur.).

TOMATO FRUITWORM (Heliothis zea) - UTAH - Egg survey on tomato leaves in fields in northern section shows very low population. (Dorst). MISSOURI - Larvae feeding on tomatoes in gardens in Jasper County. (Houser).

TOBACCO HORNWORM (Protoparce sexta) - INDIANA - Larvae noted on potatoes and tomatoes in southeastern section. (Huber).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Probably this species attacking pepper and tomato plants at Waterville, Lane County. Averaged 4 larvae per plant. (Tinker).

CABBAGE LOOPER (Trichoplusia ni) - NEW JERSEY - Small larvae expected soon on cole crops in south section. Preventive controls recommended. (Ins.-Dis. Newsltr.). MARYLAND - Medium on large cabbage planting near Severna Park, Anne Arundel County. (U. Md., Ent. Dept.). NEW MEXICO - Light and causing minor damage to cabbage in Farmington area, San Juan County. (Heninger). NEVADA - Larvae medium to heavy on potatoes in Smith Valley, Mason Valley and Fernley, Lyon County, and in Lovelock, Pershing County. Controls applied to most fields. (Coop. Rpt.).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - High population on newly transplanted cabbage in Niagara County. (N.Y. Wkly. Rpt., July 19). NORTH DAKOTA - Larval feeding well underway on cole crops in southeast. (Frye, Thomasson). UTAH - Damage increasing in home gardens in Salt Lake County. (Knowlton). NEW MEXICO - Larvae severely damaging cabbage in gardens and commercial plantings at Farmington, San Juan County. (Heninger).

CABBAGE MAGGOT (Hylemya brassicae) - NORTH CAROLINA - Very damaging on commercial cabbage in Watauga County in untreated fields and in fields receiving a standard chlorinated hydrocarbon. (Falter).

HARLEQUIN BUG (Murgantia histrionica) - OKLAHOMA - Moderate and damaging broccoli in Kay County. (Okla. Coop. Sur.).

CABBAGE APHID (Brevicoryne brassicae) - RHODE ISLAND - On cabbage in Peace Dale, Washington County. (Sorensen, Mathewson). NEW MEXICO - Probably this species heavy to very heavy and severely curling leaves of cabbage and related plants in Farmington area, San Juan County. (Heninger).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Conspicuous spotty damage in 20 acres of lima beans at Indiantown, Worchester County. (U. Md., Ent. Dept.). NEBRASKA - Small numbers in field beans in western area. (Andersen). COLORADO - Larvae common in beans in Weld County. Controls being applied. (Urano). NEW MEXICO - Light infestations a problem on pole beans at Farmington, San Juan County. (Heninger).

LEAFHOPPERS - NEW YORK - Observations in Geneva and Canandaigua areas, Ontario County, indicate populations on beans should be controlled. Building up on beans and other crops in Monroe County. (N.Y. Wkly. Rpt., July 19).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Nymphs common on lima beans in Kent and Sussex Counties. (Burbutis, Woodall).

PEA APHID (Acyrthosiphon pisum) - WISCONSIN - Populations fluctuate considerably in pea fields, ranging 0-200 per sweep in Dane, Dodge, Fon du Lac, Sheboygan, Calumet, Winnebago, Green Lake and Iowa Counties. Numbers somewhat lower in northeastern counties. Young nymphs common and parasitism remains low. (Wis. Ins. Sur.).

BEAN APHID (Aphis fabae) - OREGON - High populations began building up on seed beans in Douglas County week of July 12. (Vertrees).

SPIDER MITES (Tetranychus spp.) - MARYLAND - Destructive to garden beans at several places in Anne Arundel and Queen Annes Counties. (U. Md., Ent. Dept.). OKLAHOMA - Heavy in home gardens in Woodward County. (Okla. Coop. Sur.).

THRIPS - NEW YORK - Numerous on cucumbers for pickles in Niagara County. (N.Y. Wkly. Rpt., July 19). NEW MEXICO - Heavy on onion plants in gardens at Farmington, San Juan County. (Heninger). COLORADO - Thrips tabaci (onion thrips) continues low in most onion fields in Arkansas Valley; varying 0-10 per plant. Some fields high. (Schweissing). NEVADA - Medium to heavy infestations of T. tabaci required treatment of many onion fields in Mason and Smith Valleys, Lyon County. (Martinelli, Rivers).

ONION MAGGOT (Hylemya antiqua) - COLORADO - Damage 5-10 percent in onions in Vineland area; 30 percent in some fields. (Schweissing).

BEET WEBWORM (Loxostege sticticalis) - MINNESOTA - Adults flying in sugar beet fields in Renville County. No larvae found. (Minn. Ins. Rpt.)

LYGUS BUGS (Lygus spp.) - OREGON - Average 3 per sweep in table beet seed fields in Douglas County. Damage not serious. (Vertrees).

STRIPED CUCUMBER BEETLE (Acalymma vittatum) - OKLAHOMA - Moderate on commercial watermelons and cantaloups checked in Bixby area, Tulsa County. (Okla. Coop. Sur.). DELAWARE - Larvae heavy in cantaloup fruit in southwest Sussex County. (Bray, MacCreary). RHODE ISLAND - Common in gardens throughout State, especially in Peace Dale and Slocum, Washington County, and in North Smithfield, Providence County. (Mathewson, King).

SQUASH BUG (Anasa tristis) - NEVADA - Heavy, with heavy damage on 40 acres of cantaloups in Moapa Valley, Clark County. (Bunker). NEW MEXICO - Building up on squash and cucumber in Farmington, San Juan County. Mostly adults. (Heninger).

OKLAHOMA - Moderate in gardens in Choctaw County. Adults moved from destroyed squash to bell peppers in Tulsa County. (Okla. Coop. Sur.). MARYLAND - Eggs heavy in large squash planting at Annapolis, Anne Arundel County. (U. Md., Ent. Dept.).

PALE-STRIPED FLEA BEETLE (Systena blanda) - GEORGIA - Destroying blossoms of butternut squash in Spalding County. (Dupree).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - LOUISIANA- Surveys of seedbeds, volunteer plants and wild hosts revealed newly infested properties in Livingston, East Baton Rouge, Natchitoches, Tangipahoa and Washington Parishes. MISSISSIPPI - Extensive surveys in Jones and Perry Counties revealed one infestation in Perry and 2 in Jones. (PPC South. Reg., June Rpt.).

A CARRION BEETLE (Silpha ramosa) - CALIFORNIA - Medium and damaging strawberry fruit locally in Valley Center, San Diego County. (Cal. Coop. Rpt.).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Ruined strawberry crop at Clarkston, Cache County. (Knowlton).

CYCLAMEN MITE (Steneotarsonemus pallidus) - NEW HAMPSHIRE - Serious on strawberries at Charleston. (Reeves, Sutherland).

A SPIDER MITE (Tetranychus mcdanieli) - NEW HAMPSHIRE - Found on raspberries at Newport, Sullivan County. Det. by Reeves. This is a new State record. (Sutherland, June 14).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - OREGON - All stages on hops in Grants Pass area, Josephine County. Most growers applied third spray week of July 19. (McLaughlin).

TOBACCO INSECTS

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Populations continue to build up on tobacco in all tobacco-growing counties. Treatments underway. (U. Md., Ent. Dept.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Numbers above normal on tobacco in all tobacco-growing areas. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Light to medium on tobacco in St. Marys County. (U. Md., Ent. Dept.). WISCONSIN - Second-stage larvae of P. sexta (tobacco hornworm) noted on Dane County tobacco plants. (Wis. Ins. Sur.).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Not a problem on tobacco during past 2 seasons. (U. Md. Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Infestations increasing generally in Florence area; migration expected week ending July 28. Adults ranged 0-3 per 100 squares in treated plots and 0-7 per 100 squares in untreated plots. Larval infestations ranged 0.1-3 percent in treated plots and 71-100 percent in untreated plots. (Taft et al., July 21). Damage continues at higher than average level. Percent infestation 8 in treated fields and 42 in untreated fields compared with 4 and 24 percent, respectively, for 1964. Population pressure expected to increase in Coastal Plain area because of migration to begin about July 24 and heavy emergence of first-generation weevils. Migration in Piedmont area will occur about August 1. (Cott. Ltr., July 16). TENNESSEE - No substantial increase in population indicated within regularly infested portion of cotton-growing area. Of fields found infested, punctured squares averaged 11 percent compared with 12 percent previous week and 3 percent at this time in 1964.

Larval mortality very high due to dry weather, but some hatch still occurring in infested area. Most of heavier infested fields treated at least once. In event of rain over area during next 2 weeks, weevil populations could be considered major problem. (Locke). GEORGIA - Punctured squares ranged 6-27 percent in 5 fields in Terrell County. (French). Many fields in Colquitt, Stewart, Webster and Jenkins Counties range 11-25 percent punctured squares, some with 26-50 percent punctured squares and few with over 50 percent punctured squares. (Smith et al.). ALABAMA - Infestations continue high. Square counts somewhat lower where good control schedule followed. "Hatch outs" becoming somewhat overlapping and continuous in most of State, except in larger northern cotton-producing counties. Report from Bailey in Madison Counties indicates "hatch out" has occurred; square counts less than 10 percent on 16 farms and 10-36 percent on 7 farms. (McQueen). LOUISIANA - Infestation ranged 1-46 (average 10) percent in 106 fields in Madison Parish. Single weevil collected from 10 cotton plants in field of soybeans probably overwintered individual. (Cleveland et al., July 22). MISSISSIPPI - Punctured squares found in 24 of 27 fields examined in delta counties; infestation averaged 6.14 percent with high of 43.8 percent. (Pfrimmer et al., July 22). OKLAHOMA - Increasing in cotton in southern half of Jackson County. Infestation ranged 4-16 percent in cotton checked in Tillman County, moderate in Choctaw County; averaged 33 percent in garden planting checked in Tulsa County but only 4 percent in fields in Wagoner, Muskogee and Sequoyah Counties. (Okla. Coop. Sur.). TEXAS - Infestations increased in McLennan and Falls Counties as new generation of weevils found in several fields. Part of increase also due to shortage of squares in some fields. Damaging numbers found in 11 of 29 treated and 11 of 17 untreated fields inspected. Infestation averaged 9 (range 0-22) percent punctured squares in treated fields and averaged 20.8 (range 0.2-58) percent in untreated fields. Overall average 10.7 percent. (Cowan et al.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Field populations low in Florence area, but expected to increase soon. Larval infestations ranged 0.1-3.4 percent in treated plots and 0-4 percent in untreated plots. Total of 40 H. zea (bollworm) and 13 H. virescens (tobacco budworm) taken in light trap. (Taft et al., July 21). Some buildup occurred; numerous eggs and young larvae reported in Orangeburg area. (Cott. Ltr., July 16). TENNESSEE - Infestation continues very light in cotton on western area, although most fields checked showed some injury. Controls not justified at this time. (Locke). GEORGIA - Eggs ranged 0-6 and larvae 0-5 per 100 terminals in 5 fields in Terrell County. Larvae very heavy in 2 fields in Coffee County, damage heavy. (French). Infestations light to moderate in most fields in Colquitt, Stewart, Webster and Jenkins Counties, with heavy infestations in few fields. (Smith et al.). ALABAMA - Larvae and eggs increased in Monroe, Perry and few other southern counties. Considerable increase reported in Madison County; counts range 2-5 per 100 terminals. H. zea larvae emerged from ears of older corn throughout southern and central sections and entered soil to pupate. (McQueen). LOUISIANA - Damaged squares averaged less than 1 (range 0-9) percent in 106 fields examined in Madison Parish. Eggs averaged 2 (range 1-12) and larvae less than one (ranged 0-9) per 100 terminals. Total of 197 H. zea and 16 H. virescens adults taken in light trap. (Cleveland et al., July 22). MISSISSIPPI - Eggs found in only 5 of 27 fields checked in delta counties; averaged 0.61 per 100 terminals. Injured squares found in 15 fields at rate of 0.72 percent. Moth flight continues low. (Pfrimmer et al., July 22). ARKANSAS - Numbers of H. zea and H. virescens moths taken on sugar lines continued to decrease. In Jefferson County, 1,327 fields of cotton checked; larvae found in 72 percent of fields compared with 63 percent previous week and eggs found in 63 percent of fields compared with 68 percent previous week. Larvae per 100 terminals in these fields ranged 1-3 in 431 fields, 4-10 in 401 fields, 11-25 in 125 fields and 4 fields had 26 larvae per 100 terminals. Percent square damage as follows: None in 308 fields, less than one in 163 fields, 1-2 in 350 fields, 2.1-4 in 289 fields, 4.1-6 in 166 fields and over 6 percent in 51 fields. (Ark. Ins. Sur.). MISSOURI - Larvae ranged 0-5 and eggs 0-5 per 100 terminals in 14 percent of fields checked week ending July 21. (Jones). OKLAHOMA - Egg counts ranged up to 80 percent on larger cotton just irrigated in Jackson County; averaged 1 percent in Tillman County and ranged 16-36 percent in Wagoner, Muskogee and

Sequoyah Counties. (Okla. Coop. Sur.). TEXAS - Infestations decreased from previous week in McLennan and Falls Counties. Eggs averaged 5.9 (range 0.3-31) and larvae averaged 7 (range 0-22) per 100 terminals in 31 treated fields; eggs averaged 4.7 (range 0-12) and larvae averaged 8.4 (range 0-21.5) per 100 terminals in 18 untreated fields. Square injury averaged 7 (range 0-26.9) percent in 29 treated fields and 8.4 (range 0-21.3) percent in 17 untreated fields. Boll injury averaged 8 percent in 29 treated fields and 10 percent in 17 untreated fields. Of 571 larvae collected 188 or 33 percent determined as H. virescens. (Cowan et al.). NEW MEXICO - H. zea larvae and damage reported on cotton in Dona Ana, Luna, Chaves and Eddy Counties. (Kloepfer, Mathews). ARIZONA - Light infestations of H. zea appearing in cotton in Graham, Pima, Greenlee, Pinal and Maricopa Counties. Egg counts continue below normal. (Ariz. Coop. Sur.). CALIFORNIA - Found in many fields of cotton in Fresno County, but not yet at economic levels. (Stromberg, July 14). Present but low in cotton in Shafter area, Kern County. (Leigh, July 16). Recent weather ideal for activity in Imperial County. Definite increase in egg depostion noted, especially in northern half of valley. At present time, very few larvae surviving past early stages, but if present weather condition persists, bollworms could become serious problem even with present complement of parasites and predators. (Campbell, July 15).

BEET ARMYWORM (Spodoptera exigua) - ALABAMA - Few larvae noted in Monroe County cotton. Other infestations occurring in soybeans and on rough pigweed near cotton fields. (Guilder et al.). ARIZONA - Light numbers appearing on cotton in areas of Graham and Greenlee Counties. Light damage found in Pima area of Graham County. (Ariz. Coop. Sur.). CALIFORNIA - Few larvae found in cotton in Fresno County; situation still bears watching. (Stromberg, July 14). Evident in many fields in Kern and Tulare Counties. Natural occurring virus disease becoming widespread and killing many larvae. (Leigh, July 16).

CABBAGE LOOPER (Trichoplusia ni) - GEORGIA - Heavy population defoliating cotton in Toombs County. (Daniels). MISSISSIPPI - Few larvae found in some fields in delta counties. (Pfrimmer et al., July 22).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Larvae found in cotton fields in Graham County and in Mesa area of Maricopa County as result of bloom inspections. (Ariz. Coop. Sur.).

APHIDS - NORTH CAROLINA - Increasing in some fields of cotton near Rocky Mount. (Robertson). SOUTH CAROLINA - Some spotty to light infestations noted in Florence area cotton. (Taft et al., July 21). ALABAMA - Aphis gossypii (cotton apid) heavy in one field in Monroe County. Aphids of little concern on cotton this season; may be due to use of more suitable aphicides used in programs against heavy buildup of Anthonomus grandis (boll weevil) this season. (McQueen).

LYGUS BUGS (Lygus spp.) - ARIZONA - Light to moderate populations found in cotton throughout central and eastern areas. Few heavy infestations found in Pinal and Maricopa Counties. (Ariz. Coop. Sur.). CALIFORNIA - Remain problem on cotton in Fresno County. More nymphs appearing in fields; continued increase due to egg hatch can be expected. Counts highest in Burrel-Helm area and smaller fields on east side of county. Many damaged blossoms noted. (Stromberg, July 14). Present in cotton in most areas of Kings County. Many transient populations encountered from recently cut alfalfa nearby. (McCutcheon, July 8). Increasing in some areas of Imperial County due to adult migration from nearby alfalfa. Square damage observed in some fields; few fields treated. Predators apparently holding down nymphal populations in most fields. (Campbell, July 15). Heavy movements into cotton in Shafter area of Kern County evident throughout much of San Joaquin Valley; some movements related to harvest of alfalfa, some to drying of nearby pastures and range areas, and some to movement from safflower fields. Many reports of control failures. Apparently heavy migrations reinfested fields where controls previously successful. (Leigh, July 16).

LEAFHOPPERS - CALIFORNIA - Empoasca fabae (potato leafhopper) again found in fields along foothills of Sierras. (Stromberg, July 14). Leafhopper adults moving into cotton from nearby beet fields in Imperial County; nymphs increasing. Treatments required in some cotton. (Campbell, July 15). E. fabae evident in some cotton in Shafter area of Kern County, particularly along eastern side of valley. Fields should be checked for feeding signs. (Leigh, July 16).

PLANT BUGS - TENNESSEE - Infestations found throughout cotton-growing area, but well below control level. Damage to small squares evident in all fields checked. (Locke). LOUISIANNA - Fleahoppers found in 14 of 53 fields checked in Madison Parish; ranged 1-10 per 100 sweeps. Lygus lineolaris (tarnished plant bug) ranged 1-3 per 100 sweeps in 21 of 53 fields checked. (Cleveland et al.,July 22). MISSISSIPPI - L. lineolaris and fleahoppers continue to be found in many fields in delta counties. Most infestations light, but high in occasional field. (Pfrimmer et al., July 22). MISSOURI - Several species ranged 0-19 per 100 plants in 93 percent of fields checked during week ending July 21. (Jones). TEXAS - Psallus seriatus (cotton fleahopper) averaged 1.7 per 100 terminals in 31 treated fields and 3.8 per 100 terminals in 18 untreated fields in McLennan and Falls Counties. (Cowan et al.).

SAY STINK BUG (Chlorochroa sayi) - ARIZONA - Moderate infestations occurring in cotton in Graham, Greenlee and Maricopa Counties. (Ariz. Coop. Sur.).

SPIDER MITES - SOUTH CAROLINA - Some spotty to light infestations noted on cotton in Florence area. (Taft et al., July 21). Damage causing serious concern in number of counties including Calhoun and Laurens. (Cott. Ltr., July 16). TENNESSEE - Infestations increasing on cotton in western area; more numerous in northwestern portion of cotton-growing area. Spot control still feasible in most instances. Further increase expected, as weather conditions ideal at this time. (Locke). GEORGIA - Tetranychus telarius (two-spotted spider mite) infestations appear on decline in Oconee County (Jordan); building up in fields on regualr treatment schedules in Spalding County (Tippins). ALABAMA - Increased number of light infestations reported in some northern counties, especially Jackson, Madison and Colbert. Not yet of major concern. (McQueen). MISSISSIPPI - Continue number-one problem in many fields in delta counties. T. telarius present in more fields than in any recent year; T. cinnabarinus appearing in some fields. (Pfrimmer et al., July 22). MISSOURI - Spot treatments for Tetranychus spp. applied to 191 acres in 22 fields during week ending July 21. (Jones). OKLAHOMA - Tetranychus spp. averaged 20 per leaf in field of cotton in Webbers Falls area, Muskogee County. None found in other fields in area. (Okla. Coop. Sur.). CALIFORNIA - Control of these pest greatest concern among Fresno County cotton growers; many fields being treated. (Stromberg, July 14). T. telarius and T. pacificus (Pacific spider mite) found in some fields in northern Kings County. T. atlanticus (strawberry spider mite) still causing some problems. (McCutcheon, July 8). Spider mites evident in many fields of cotton in Shafter area of Kern County; growers urged to check fields carefully, particularly for more T. atlanticus which causes severe defoliation of lower portion of plants. (Leigh, July 16).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLES (Dendroctonus spp.) - OREGON - D. pseudotsugae (Douglas-fir beetle) attraction sampling in Marys Peak Watershead, Benton County, revealed decreased population on standing trees; apparently result of resinosus (pitch out) which killed adults in invaded trees. High density of attack resulted in overcrowding, high mortality and buildup of parasites and predators. (Rudinsky). CALIFORNIA - D. brevicomis (western pine beetle) causing continuous ponderosa pine tree losses in Indian Scotty Campgrounds; 41 trees killed in 5-acre area. (J. Rush, USFS). VIRGINIA - Dendroctonus spp. infesting pine trees in yard in Patrick County. (Isakson, Olinger, July 14). D. frontalis (southern pine beetle) infested 2 new small (6-tree) spots on loblolly pine in Surry County; 10 additional spot infestations reported in Fluvanna County; 0.5 to 3 acres in May; 3 additional 0.1 acre in June. Numerous additional infestations noted in Amelia County; several new spots noted in Charlotte, Mecklenburg and Appomattox Counties. Infestations confirmed in 2 spots in Campbell County and one spot (0.25 acre) in loblolly pine in Henry County. Five individual infestations on 1-10 loblolly pines killed in Virginia Beach; 4 new infestations of 1-30 trees located in Accomack County. One infestation (10 trees) in Northampton County. Several small (up to 0.25 acre) spots noted in Caroline County in May; single 15-acre spot noted in Richmond County in May. Dendroctus spp. noted in spots of one to many trees in Brunswick County; up to 24 trees in Sussex County on 5 tracts (1-3 trees) of shortleaf pines in Mecklenburg County; one tract in Henry County. (Morris, Va. Div. Forestry). ALABAMA - D. terebrans (black turpentine beetle) damaged 10-15 pines around home under construction in Greene County; trees suffered bruises and bark injury. Other small infestations noted in county. (Johnston et al.).

ENGRAVER BEETLES (Ips spp.) - VIRGINIA - Active in scattered 1-2 tree spots in Dinwiddie County and 1-10 tree spots in Sussex County. Killing Virginia pine in 4 spots (0.1 acre) in Fairfax County; active in Campbell County, killing 2 Virginia pines. Active in 5 spots in Essex County. (Morris, Va. Div. Forestry).

BARK BEETLES (Phloeosinus spp.) - NEVADA - Adults and larvae medium to heavy in felled incense cedar in Incline Village area, Washoe County. (Bechtel, Christner, Martenelli).

SUGAR-PINE CONE BEETLE (Conophthorus lambertianae) - CALIFORNIA - Causing widespread damage to sugar pines in Collins Creek and adjacent areas of Klamath National Forest. (N. E. Dircksen, USFS).

PALES WEEVIL (Hylobius pales) - VIRGINIA - Damage scattered over single 100-acre loblolly pine plantation in Brunswick County; 0.5-acre tract in Appomattox, 3-acre tract in Mecklenburg and tract in Isle of Wight Counties noted. (Morris, Va. Div. Forestry).

WHITE-PINE WEEVIL (Pissodes strobi) - NEW YORK - Caused serious damage to white pine and killed 15 percent of leaders on 10-20 foot loblolly pines in Arnot Forest at Newfield. (N.Y. Wkly. Rpt., July 16).

LARCH SAWFLY (Pristiphora erichsonii) - OREGON - Infesting 2,500 acres of mature western larch; caused light to heavy defoliation in White River drainage on Mount Hood National Forest in 1964. This is a new State record. Det. by D. R. Smith. (Orr, USFS). WISCONSIN - Single female observed ovipositing on new growth of tamarack in Lincoln County stand July 20. No other evidence of current sawfly activity apparent. (Wis. Ins. Sur.).

INTRODUCED PINE SAWFLY (Diprion similis) - MINNESOTA - Fourth instars reported at Floodwood; middle to late instars of first generation still feeding at Brainerd, Park Rapids and Bemidji areas. Some cocooning started; populations generally light; moderate on White Earth State Forest. (Minn. Ins. Rpt.). NORTH DAKOTA - Late instars on Scotch pine in Richland County. (Dawson, Conley, Kennedy).

CONIFER SAWFLIES (Neodiprion spp.) - CALIFORNIA - N. abietis complex causing severe damage to 160 acres of white fir Christmas trees in Smith Peak and 800 in Freeman Creek; 160 acres in Crocker Mountain and 100 acres in Bagley Pass, Plumas County, infested. (C. Wagner, USFS). Damaging 20-30 acres of white fir in Cedar Pass Campgrounds, Modoc County. (K. Smith, USFS). MINNESOTA - N. pratti banksianae (jack-pine sawfly) feeding completed in central area. All sizes of N. lecontei (red-headed pine sawfly) larvae feeding on roadside jack pines in central district. Mostly middle instars; some very heavy infestations present. (Minn. Ins. Rpt.). WISCONSIN - N. pinetum (white-pine sawfly) mostly fifth instar; observed on ornamental white pine in Monroe County July 13; defoliation very light. (Wis. Ins. Sur.). VIRGINIA - N. pratti pratti noted in all counties of District 4 (Farmville); spotty and considerably lighter than in 1964. Severely defoliated 6-acre tract of Virginia and shortleaf pines in Henry County in May and single loblolly pine plantation in Caroline County. Larvae of N. lecontei defoliating 7 loblolly pines in plantation in Clarke County. (Morris, Va. Div. Forestry).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - WYOMING - Galls becoming numerous on blue spruce at Laramie, Albany County. (Robb).

CONIFER APHIDS (Cinara spp.) - WYOMING - Numerous on spruce trees at Laramie, Albany County. (Fronk, Lawson). UTAH - Numerous on some blue spruce Christmas trees in Riverton area, Salt Lake County. (Knowlton). IDAHO - C. engelmanniensis infestation in Moscow, Latah County, held in check by lady beetles and syrphid flies. (Portman). Infestation appeared for third year on spruce in Nezperce, Lewis County. (Dailey).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - NEW JERSEY - Second-generation crawler activity expected soon; controls recommended. (Ins.-Dis. Newsltr.). WISCONSIN - About 10 percent hatched in advanced area of western Dane County July 20; few crawlers appearing on needles. Specimens, presumably this species, on spruce near Madison, Dane County, revealed eggs only on July 13. Nurserymen urged to use controls in advanced areas. (Wis. Ins. Sur.). UTAH - Heavy on some blue spruce in Salt Lake City area. (Knowlton). IDAHO - Infested Douglas-fir at Nezperce, Lewis County; well parasitized. (Dailey).

SARATOGA SPITTLEBUG (Aphrophora saratogensis) - WISCONSIN - Chemical control on several small plantings will start about July 22. (Wis. Ins. Sur.).

A SPITTLEBUG (Aphrophora canadensis) - CALIFORNIA - Heavy on pine in Arcata, Humboldt County. (Cal. Coop. Rpt.).

JACK-PINE BUDWORM (Choristoneura pinus) - MINNESOTA - Emergence nearly complete as far north as Bemidji; active and laying eggs; 3,000 acres heavily defoliated on Beltrami Island State Forest. Severe defoliation south and west of Bemidji. (Minn. Ins. Rpt.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - VIRGINIA - Active on loblolly pines in numerous plantations in Frederick and Clark Counties; damage slight. (Morris, Va. Div Forestry).

AN OLETHREUTID MOTH (Eucosma gloriola) - NEW YORK - Common in leaders of pine on Arnot Forest at Newfield. (N.Y. Wkly. Rpt., July 16).

SPIDER MITES - WISCONSIN - Heavy on red pine, white-cedar, balsam fir and blue spruce in west central counties past few weeks; discoloration of red pine in Columbia County plantation and curling of new growth on balsam fir in Monroe County Christmas tree planting quite apparent July 15. (Wis. Ins. Sur.). MARYLAND - Various species infesting spruce, hemlock, hollyhocks, petunias, maples and other plants statewide. (U. Md., Ent. Dept.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - RHODE ISLAND - Feeding evidence common statewide. (Mathewson). DELAWARE - Adults abundant on elms locally in

Sussex County. (Burbutis, Woodall). ALABAMA - Southernmost infestation noted in Marengo County; more severe in Hale, Perry, Greene, Montgomery, Autauga and other central counties. Many trees defoliated in Sumter County. (Story et al.). MISSOURI - Second-generation pupae plentiful in Jasper County; pupation about 50 percent complete July 22. (Houser). OKLAHOMA - Heavy on elms in Choctaw and Murray Counties. Large number of adults noted at lights in Stigler, Haskell County. (Okla. Coop. Sur.). NEW MEXICO - Light to heavy on Chinese elms at Farmington; lighter at Laplata, San Juan County. (Heninger). ARIZONA - Heavy damage still apparent on elms in Graham, Pinal and Maricopa Counties. (Ariz. Coop. Sur.). OREGON - Early damage appearing in Jackson, Josephine and Douglas Counties on elms. Appears worse than in 1964. (Larson).

LARGER ELM LEAF BEETLE (Monocesta coryli) - ALABAMA - First report of infestations on elms in Lee County this season; defoliating some American elms along stream. (McQueen).

LOCUST LEAF MINER (Xenochalepus dorsalis) - VIRGINIA - Severe in parts of Amherst County in June. Caused slight browning to black locust in 2 spots in Wise and Lee Counties. (Morris, Va. Div. Forestry).

LOCUST BORER (Megacyllene robiniae) - UTAH - Extremely bad; killing and severely damaging many black locusts at Kearns, Salt Lake County, and Bountiful, Davis County. Damage common elsewhere in these counties. (Knowlton, July 17). IOWA - Larvae severely damaging locust trees near Portsmouth, Shelby County. (Iowa Ins. Inf., July 19).

A LEAF-MINING WEEVIL (Odontopus calceatus) - VIRGINIA - Causing about 50 percent defoliation of yellow-poplar in Lee, Scott, Buchanan and Wise Counties. Active throughout District 9 (Tappahannock) causing minor defoliation of yellow-poplar. Caused extensive browning of leaves in Lee, Wise, Lancaster and Northumberland Counties June 15 and 18. (Morris, Va. Div. Forestry). OHIO - Found as far north as Delaware County. (Donley).

COLUMBIAN TIMBER BEETLE (Corthylus columbianus) - VIRGINIA - Attacked 28 yellow-poplars in tract in Nelson County in May and 6 yellow-poplars on tract in Augusta County. (Morris, Va. Div. Forestry).

FALL WEBWORM (Hyphantria cunea) - MISSOURI - Webs becoming large in southern third of State. Very numerous in southwestern district; observed on persimmon, black walnut, hickory, pecan, mulberry and sycamore trees. (Houser). ARKANSAS - Light in State past few weeks; increasing at rapid rate. Webs becoming more numerous and increasing in size; most webs 1-2 feet in diameter. (Ark. Ins. Sur.). ALABAMA - Increasing in southern and western areas on pecan, hickory and persimmon trees. (Welch, Story et al.). DELAWARE - Young larvae common on variety of trees locally in New Castle County. (Burbutis, Woodall).

SPRING CANKERWORM (Paleacrita vernata) - UTAH - Caused light damage to poplars and flowering apples in Holladay, Salt Lake County, where damage extensive in 1964. (Burningham, Knowlton).

FOREST TENT CATERPILLAR (Malacosoma disstria) - UTAH - Adults decreased in light trap collections at Logan, Cache County, following peak in early July. (Davis). Fairly numerous in trap at Benjamin, Utah County, July 13. (Knowlton).

GYPSY MOTH (Porthetria dispar) - RHODE ISLAND - Oviposition observed in Cranston and Lincoln, Providence County, and Warwick, Kent County. (Veilleux). MICHIGAN - Approximately 6,000 traps set in Ingham, Eaton, Clinton, Ionia, Shiawassee, Jackson and Calhoun Counties; trapping negative. (Ring et al.).

SATIN MOTH (Stilpnotia salicis) - VERMONT - Larvae defoliating aspen in Orleans County. (MacCollom, July 19).

TIGER SWALLOWTAIL (Papilio glaucus) - IOWA - Larvae defoliating linden at Walnut, Pottawattamie County. (Iowa Ins. Inf., July 19).

BIRCH LEAF MINER (Fenusa pusilla) - IOWA - Found in leaves of white birch in Fayette County. This is a new State record. (Iowa Ins. Inf., July 19).

SAWFLIES - VERMONT - Larvae defoliating mountain-ash in Chittenden County. (MacCollom, July 19).

A GALL WASP (Callirhytis conigera) - ALABAMA - Heavily damaged old red oak tree in Greene County; large galls formed on most limbs and twigs; adults emerged. (McQueen).

LACE BUGS - NEW JERSEY - Building up on sycamore; controls recommended. (Ins.-Dis. Newsltr.). OKLAHOMA - Corythucha ciliata (sycamore lace bug) damaging sycamores in Pawnee County; unidentified species causing heavy damage to pyracantha and light on American elm in Payne County. (Okla. Coop. Sur.).

A LEAF-FEEDING GRASSHOPPER (Dendrotettix quercus) - WISCONSIN - Populations, probably this species, high in area of Jackson County. (Wis. Ins. Sur.).

OYSTERSHELL SCALE (Lepidosaphes ulmi) - UTAH - Heavy attack causing death of many limbs of ash trees in Salt Lake City-Murray area, Salt Lake County. (Knowlton).

BEECH SCALE (Cryptococcus fagi) - NEW JERSEY - Observed on beech trees in residential areas of Morris County. (Ins.-Dis. Newsltr.).

EUROPEAN RED MITE (Panonychus ulmi) - OKLAHOMA - Averaged 5 per leaf on American elms in Stillwater area, Payne County. (Okla. Coop. Sur.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - MINNESOTA - Heavy on silver maples in Minneapolis-St. Paul area. (Minn. Ins. Rpt.).

SOFT SCALES - OHIO - Lecanium fletcheri (Fletcher scale) increased over past year; number-one problem on juniper and taxus in Portage and Summit Counties. Several thousand azalea plants infested with Pulvinaria ericicola in Portage County near Kent. Appeared more abundant in dense plantings; this is only infested area in State. (Kelly). This is first ARS record for P. ericicola in State. (PPC). VIRGINIA - Pseudophilippia quaintancii noted on pine in King and Queen County July 11. (Morris, Va. Div. Forestry). NEW YORK - Heavy population of Toumeyella liriodendri (tuliptree scale) active in Nassau County park. (N.Y. Wkly. Rpt., July 19).

ARMORED SCALES - RHODE ISLAND - Lepidosaphes yangicola eggs hatched and crawlers appearing generally on winged euonymous in Newport, Newport County, and Warwick, Kent County. (Veilleux). FLORIDA - All stages of Parlatoria proteus generally infesting and moderately damaging Liriope sp. in nursery at St. Petersburg, Pinellas County. (Baker, Bingaman, July 7). NORTH CAROLINA - Fiorina theae (tea scale) infested camellias in Wake County. (Jones). GEORGIA - F. theae heavy on camelias in Laurens County. (Brown). OHIO - Diaspis carueli (juniper scale) infested arborvitae at Woodsfield, Monroe County. (Pollock, Delaplane). WISCONSIN - Crawlers of Aspidiotus californicus (black pine leaf scale) settled on needles of Mugho pine in Monroe County July 13. (Wis. Ins. Sur.).

DACTYLOPIID SCALES - IDAHO - Crawlers of Gossyparia spuria (European elm scale) infested Siberian elms at Preston. (Roberts). NORTH CAROLINA - Eriococcus azalea (azalea bark scale) infested azalea in Pitt County. (Scott).

APHIDS - UTAH - Black willow, Norway maple and boxelder trees conspicuously sticky with honeydew caused by aphids in Holladay-Cottonwood area, spotty elsewhere in Salt Lake County. (Knowlton, Burningham). Pemphigus sp. galls much less numerous in Garden City and Randolph areas, Rich County, on Populus angustifolia than during past 3 seasons. Macrosiphum eoessigi damagingly abundant at Provo; controls necessary. Scarce or absent in most northern and central areas on hollyhocks examined this spring. Aphis pomi (apple aphid) conspicuously infesting flowering apple foliage south of Salt Lake City. (Knowlton). MINNESOTA - Aphids

causing distortion of silver maple leaves. (Minn. Ins. Rpt.). NEW YORK - Unidentified species still persisting in some privet plantings in Suffolk County. (N.Y. Wkly. Rpt., July 19). NEW HAMPSHIRE - Dactynotus rudbeckiae (goldenglow aphid) deforming delphiniums at Durham. (Conklin, July 16). NEVADA - Aphids heavy on American elms in Ormsby County; honeydew heavy. (Ting). NEW MEXICO - Unspecified species heavy on American elms; severely deforming foliage at Laplata, San Juan County. (Heninger).

WHITEFLIES - GEORGIA - Heavy on ornamental plants in De Kalb County. (Coleman). RHODE ISLAND - Puparia of Tetraleurodes mori (mulberry whitefly) common in Warwick, Kent County, on ornamental mountain-laurel. (Mathewson).

PERIODICAL CICADAS (Magicicada spp.) - VIRGINIA - Damage widespread in northern end of Alleghany County; ranges light to moderate in Shenandoah, Rockingham, Highland and Bath Counties. (Morris, Va. Div. Forestry). OHIO - Nursery stock involving taxus, euonymus, azalea and other shrubs and shade trees heavily damaged during Brood V emergence in West Richfield area, Summit County. (Kelly). Caused severe damage in commercial orchard at Magnolia, Carroll County. (Forsythe).

ROSE LEAFHOPPER (Edwardsiana rosae) - UTAH - Discoloring rose foliage in Kearns-Salt Lake City area, Salt Lake County. (Knowlton).

A LEAFHOPPER (Erythroneura aclys) - OHIO - Very abundant on some redbud trees in Columbus, Franklin County; foliage damaged; leaves grayish. (Davidson).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Heavy on evergreens in Mayes, Ottawa, Murray and Greer Counties. Moderate in Kay and Garvin Counties. (Okla. Coop. Sur.). MISSOURI - Light to heavy on untreated evergreens throughout State. (Houser). IOWA - Half-grown larvae feeding on deciduous trees at Onawa. (Iowa Ins. Inf., July 19). MARYLAND - Destructive to arborvitae and juniper on several suburban Prince Georges County properties. (U. Md., Ent. Dept.). ALABAMA - Several hundred redcedar trees and many shrubs heavily attacked by larvae in Greene County. (Johnston et al.).

A BAGWORM (Thyridopteryx sp.) - FLORIDA - Larvae infesting coconut at Key West, Monroe County. (Thurston, July 14).

MIMOSA WEBWORM (Homadaula albizziae) - NEW JERSEY - Activity increasing on mimosa and honeylocust trees in central counties. (Ins.-Dis. Newsltr.). MISSOURI - Light to moderate webbing on many mimosa trees in southwestern district. (Houser).

JUNIPER WEBWORM (Dichomeris marginella) - OREGON - Continues to feed on various varieties of ornamental juniper in western area; adults emerged week of July 19 in Jackson County. (McLaughlin, Larson).

AILANTHUS WEBWORM (Atteva aurea) - VIRGINIA - Present on ailanthus in Tappahannock, Essex County on June 17. (Morris, Va. Div. Forestry).

EIGHT-SPOTTED FORESTER (Alypia octomaculata) - NORTH DAKOTA - Moderate larval feeding noted on Virginia-creeper at Minot. (Frye, Thomasson).

STALK BORER (Papaipema nebris) - WISCONSIN - Larvae infesting perennial flowers and other plants. (Wis. Ins. Sur.).

PAINTED LADY (Vanessa cardui) - IDAHO - Larvae abundant and general throughout Fremont County; moving into some gardens adjacent to mowed Canada thistle. Larvae first noted in late June. (Garner).

HOLLYHOCK WEEVIL (Apion longirostre) - UTAH - Very abundant in hollyhock at Coalville, Summit County, June 15, 1965. This constitutes a new State record. Additional collections and new county records since original find as follows: Logan, Cache County, July 3; Payson, Utah County, July 6; Nephi, Juab County, July 7; Kearns and Salt Lake City, Salt Lake County, July 16; and Farmington,

Davis County, July 20. Additional community records include Mona, Juab County, and Provo, Utah County, on July 20. Species apparently present in State for several years. (Knowlton).

ASIATIC GARDEN BEETLE (Maladera castanea) - RHODE ISLAND - Very heavy on property in Peace Dale, Washington County; probably abundant statewide. (Hyland, Mathewson).

JAPANESE BEETLE (Popillia japonica) - MARYLAND - Adults increased on favored ornamental hosts in several areas over State. (U. Md., Ent. Dept.). RHODE ISLAND - Continues negligible statewide. (Mathewson, Veilleux).

NATIVE HOLLY LEAF MINER (Phytomyza ilicicola) - VIRGINIA - Infested holly trees in Culpeper, Culpeper County. (Isakson, Heltzel, July 15).

THRIPS - OREGON - Causing silvering of privet leaves in Jackson County. (McLaughlin). WISCONSIN - Yellowing and whitening of privet hedges due to feeding of Dendrothrips ornatus (privet thrips) becoming increasingly more noticeable. (Wis. Ins. Sur.).

EUROPEAN EARWIG (Forficula auricularia) - COLORADO - Feeding on ornamentals in Larimer, Boulder and Denver Counties in increasing numbers. (Daniels).

ERIOPHYID MITES - OREGON - Undetermined species causing bronzing, rolling and distortion of azalea leaves in propagating beds at Myrtle Creek, Douglas County. (Vertrees).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MINNESOTA - Light trap collections in Metropolitan Mosquito Control District for weekend of July 17 totaled 12,327 females; 5,188 previous week. Totals were: Aedes vexans 5,748, Culiseta inornata 3,407, Culex tarsalis 1,546, Mansonia perturbans 442 and Anopheles walkeri 219. In 3,065 larval collections (record number for one week), Aedes vexans found in 1,478, A. cinereus in 122, Culex tarsalis in 820, C. restuans in 678, C. territans in 390, C. pipiens in 232 and Culiseta inornata in 650 collections. In 42 15-minute evening bite collections, 310 females taken; 171 Aedes vexans, 26 A. cinereus, 17 A. excrucians, 12 A. fitchii, 37 Mansonia perturbans, 10 Culiseta inornata and 7 Culex tarsalis. In 247 5-minute daytime collections, 2,133 females taken. A. vexans predominant with 969; A. stimulans, A. excrucians and A. fitchii accounted for 640. Mansonia perturbans, often troublesome at dusk, accounted for 38 specimens. Very substantial brood of A. vexans emerged in southern parts of Scott and Dakota Counties. Very marked increase of A. vexans in Minneapolis-St. Paul area night of July 21; increase occurred due to favorable nighttime temperatures and moderate south-southwest winds which brought hordes of mosquitoes in from southern part of district and beyond; brood still on move and undoubtedly dispersal will continue for 7-10 days. High populations throughout much of northern wooded areas. (Minn. Ins. Rpt.). WISCONSIN - Some activity continues although lessened somewhat; most temporary pools examined free of larvae. One pool in Dane County with estimated 100 Aedes sp. per square foot. (Wis. Ins. Sur.). IOWA - A. vexans predominant species annoying in areas receiving rains. (Iowa Ins. Inf., July 19). NEBRASKA - Aedes sp. numerous in Lincoln area; causing severe discomfort. (Roselle). OKLAHOMA - Several species moderate to heavy; continue annoying in northeast and in wooded areas in east central. (Okla. Coop. Sur.). UTAH - Unusual amounts of rain required mosquito control in Price-Helper-Wellington areas; very troublesome in several areas of Iron County. Very troublesome to people and livestock in Randolph-Woodruff and Allen Canyon. Species largely Aedes idahoensis in Allen Canyon. Troublesome in Lakota-Laketown areas and around Bear Lake, Rich County. Moderately numerous in Logan Canyon, Cache County. (Knowlton). NEVADA - Aedes dorsalis adults heavy at Stillwater, Churchill County, and Lovelock, Pershing County. A. nigromaculis adults extremely abundant in Fernely and Mason Valley, Lyon County. (Cooney). Culex tarsalis adults and larvae heavy at several locations in Las Vegas area, Clark County. (Milner).

FACE FLY (Musca autumanlis) - MISSOURI - Ranged 2-3 per face on cattle in central and north central districts July 23. (Thomas). Adults collected from face of cow in Vernon County July 21; this is a new county record. Ratio of 7 Musca domestica (house fly) to 2 M. autumnalis noted on face of cow. (Houser). UTAH - Troublesome to cattle in foothills above Mendon, Cache County; collected consistently in blacklight traps at Logan. (Hanson, Davis, Knowlton). SOUTH DAKOTA - High numbers continue on stock; up to 12 per head on untreated stock in Charles Mix County. (Jones, Kantack). MARYLAND - Counts in Montgomery and Howard Counties continued lower than in previous years. Ranged 3-8 per face on herds in Montgomery County (averaged 12 per head in 1963 and 1964). Ranged 4-6 in Howard County. (Fales).

HOUSE FLY (Musca domestica) - VIRGINIA - Larvae and pupae medium in hog pen in Caroline County. (Isakson, Eagar, July 20). WISCONSIN - Activity increasing. (Wis. Ins. Sur.). IOWA - Controls urged in feedlots. (Iowa Ins. Inf., July 19). OKLAHOMA - Numbers low in Payne County; heavy in and around homes in Choctaw County. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - SOUTH DAKOTA - High numbers continue; ranged 75-100 per side on untreated stock in Charles Mix County. (Jones, Kantack). IOWA - Controls urged in feedlots. (Iowa Ins. Inf., July 19). OKLAHOMA - Range 2-3 per head on cattle in Payne County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - WYOMING - Adults causing considerable annoyance to cattle in some areas of Platte, Goshen and Laramie Counties; estimated 85-225 per animal. (Marks). NEBRASKA - Increasing on cattle in eastern area. (Rhine, Roselle). SOUTH DAKOTA - Numbers continue high; counts on untreated stock in Charles Mix County ranged 200-250 per side. (Jones, Kantack). OKLAHOMA - Decreased in Payne and Noble Counties; moderate on cattle in Murray, Stephens and Mayes Counties. (Okla. Coop. Sur.). ALABAMA - Although present on all herds in western area, unusually light on beef and dairy cattle in Perry, Greene and other nearby counties. (McQueen).

TABANID FLIES - NEVADA - Numerous adults present at Swingle Bench, Churchill County. (Cooney). UTAH - Becoming moderately abundant and troublesome to livestock in Randolph-Woodruff area, Rich County. (Knowlton). OKLAHOMA - Tabanus sulcifrons heavy and T. atratus (black horse fly) moderate on cattle in Choctaw County. (Okla. Coop. Sur.). MISSOURI - Tabanus spp. adults ranged 2-3 per animal on horses and cattle on farm in Barton County. Most specimens green-headed species; numbers slightly heavier since July 1. (Houser, July 21). WISCONSIN - Deer flies annoying in many areas. (Wis. Ins. Sur.). MINNESOTA - Deer flies extremely annoying in forested areas. (Minn. Ins. Rpt.).

BOT FLIES - UTAH - Annoying horses at Farmington, Davis County, and Kanesville, Weber County, June 17. Gasterophilus intestinalis (horse bot fly) annoying horses near Spanish Fork, Utah County. (Knowlton).

MASKED HUNTER (Reduvius personatus) - UTAH - Entered home at Ogden, Weber County. Three specimens collected in blacklight trap at Benjamin, Utah County, night of July 13. (Knowlton).

WESTERN BLOODSUCKING CONENOSE (Triatoma protracta) - CALIFORNIA - Adult bit person at Coalinga, Fresno County; heavy population in home in Paradise, Butte County. (Cal. Coop. Rpt.).

BLISTER BEETLES (Epicauta spp.) - OKLAHOMA - Caused death of 2 horses; animals ate hay containing large number in Paoli area, Garvin County. (Okla. Coop. Sur.).

TICKS - ALABAMA - Immatures heavy throughout much of Black Belt counties; 25 or more bites on legs and arms not unusual. Vary on cattle. (Johnston et al.). RHODE ISLAND - Dermacentor variabilis (American dog tick) adults found but not widespread problem. (Mathewson). NEW HAMPSHIRE - D. variabilis noted at Amherst. (Sutherland). OKLAHOMA - Amblyomma americanum (lone star tick) variable on cattle

in Atoka County. Adults range up to 400 per head; larvae increasing; few nymphs found. (Okla. Coop. Sur.).

FLEAS - NEBRASKA - Several incidences of home infestations in Lincoln. (Rhine). OKLAHOMA - Ctenocephalides spp. continue annoying in homes of returning vacationers. (Okla. Coop. Sur.). RHODE ISLAND - Ctenocephalides spp. seasonal complaints appearing. (Mathewson).

HEAD LOUSE (Pediculus humanus capitis) - CALIFORNIA - Heavy on pillow in second class hotel in Venice, Los Angeles County. (Cal. Coop. Rpt.).

CHICKEN MITE (Dermanyssus gallinae) - RHODE ISLAND - Infested home in Warwick, Kent County; associated with swallow nest. (Mathewson).

CHIGGER MITES - IOWA - Present and annoying throughout State. (Iowa Ins. Inf., July 19).

IO MOTH (Automeris io) - OKLAHOMA - Larvae continue irritating to humans in Payne County. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

COCKROACHES - NORTH CAROLINA - Cariblatta lutea collected in Wake County home July 18. Det. by C. G. Wright. (Smith). ALABAMA - Many complaints concerning Blattella germanica (German cockroach) in homes in Lee County. (McQueen). GEORGIA - Blatta orientalis (oriental cockroach) infested home in Ellijay; cockroaches infested with roundworms. (Coleman). UTAH - Supella supellectilium (brown-banded cockroach) infested apartment at Logan, Cache County. (Knowlton).

EUROPEAN EARWIG (Forficula auricularia) - RHODE ISLAND - Continues as statewide nuisance. (Mathewson et al.). CONNECTICUT - Continues as number-one household pest. (Savos). NEW YORK - Nuisance in many homes and gardens in Suffolk County. (N.Y. Wkly. Rpt., July 19). UTAH - Unusually abundant in fields and homes in much of Cache County and in several areas of Salt Lake County. (Knowlton, Parrish, Burtenshaw).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - MASSACHUSETTS - Bothersome in houses in several areas of western section. (Wave). RHODE ISLAND - Entering homes in Warwick, Kent County, and Providence and Cranston, Providence County. (Mathewson, Veilleux). CONNECTICUT - In homes in Stamford, North Haven, Rockville, Norwich and Higganum. (Johnson, Savos, July 21). NEW JERSEY - Migrating into homes in several areas of State. (Ins.-Dis. Newsltr.). OHIO - Migrating into homes and garage in Hocking and Franklin Counties. (Kuhl, Baertche, Delaplane).

A JAPANESE WEEVIL (Calomycterus setarius) - MASSACHUSETTS - Bothersome in houses in several areas of western section. (Wave, July 17). RHODE ISLAND - Heavy around home in Richmond, Washington County. (Wakefield, Mathewson).

BLACK CARPET BEETLE (Attagenus piceus) - MASSACHUSETTS - Very numerous in home at Marion. (Tomlison).

WHARF BORER (Nacerdes melanura) - NEW HAMPSHIRE - Adults in store basement at Berlin, Coos County; thousands in cellar at Manchester, Hillsboro County. (Conklin, July 14, 17).

A PSYCHID MOTH (Apterona crenulella) - UTAH - Cases very numerous on walls of home in southwestern Salt Lake City. (Knowlton, July 17).

A FALSE CHINCH BUG (Nysius sp.) - NEVADA - Migrating from drying fields into homes and home gardens in southern Washoe County. (Coop. Rpt.).

BENEFICIAL INSECTS

LADY BEETLES - ARKANSAS - Very few Hippodamia convergens (convergent lady beetle) remain in fields in upper Arkansas River Valley; moved to surrounding mountains. (Ark. Ins. Sur.). COLORADO - Lady beetles, probably Microwesia marginata, abundant on mite-infested blue spruce at Palisade, Mesa County, and hollyhocks at Fort Collins, Larimer County. (Anderson, Thatcher). Unspecified species decreasing on alfalfa and moving to corn and sorghum in Prowers, Bent, Otero and Crowley Counties. (Schweissing). WYOMING - Adults and larvae of several species averaged 32 per 100 sweeps in alfalfa fields in Platte, Goshen and Laramie Counties. (Marks). SOUTH DAKOTA - Adults of unspecified species averaged 10-12 per 100 sweeps in second-growth alfalfa near Spearfish, Lawrence County. (Jones). NORTH DAKOTA - H. convergens and Adalia bipunctata (two-spotted lady beetle) much in evidence in most fields where aphids present. (Frye, Thomasson).

DAMSEL BUGS (Nabis spp.) - NORTH DAKOTA - Very evident in fields where aphids present. (Frye, Thomasson). SOUTH DAKOTA - Averaged 6 adults per 100 sweeps in second-growth alfalfa near Spearfish, Lawrence County. (Jones). COLORADO - Decreasing in alfalfa and moving to corn and sorghum in Prowers, Bent, Otero and Crowley Counties. (Schweissing).

GREEN LACEWINGS (Chrysopa spp.) - NORTH DAKOTA - Adults and larvae abundant in most aphid infested fields. (Frye, Thomasson). WYOMING - Adults and larvae numerous in alfalfa fields in Platte, Goshen and Laramie Counties. Adults averaged 24 and larvae 36 per 100 sweeps. (Marks).

ICHNEUMONS - IDAHO - Probably (Campoplex sp., heavily parasitizing full-grown Hemerocampa pseudotsugata (Douglas-fir tussock moth) larvae at Moscow and Orofino. (Manis, Fitzsimmons). FLORIDA - Several Brachycyrtus pretiosus adults taken in Steiner traps at Orange City, Volusia County. Det. by L. M. Walkley. (Desin, June 18).

A PTEROMALID WASP (Cecidostiba dendroctoni) - MISSISSIPPI - This parasite of Dendroctonus frontalis (southern pine beetle) collected in Franklin and Jefferson Counties during April 1965. Det. by B. D. Burks. This is a new State record. (Brazzel).

MISCELLANEOUS INSECTS

A WHITE-FRINGED BEETLE (Graphognathus leucoloma striatus) - MARYLAND - Found in Temple Hills community in Prince Georges County on July 14. This is residential community. Cooperative survey by Maryland State Board of Agriculture and Plant Pest Control Division, U.S. Department of Agriculture underway to delimit infestation and prevent spread. This is a new State record. (U. Md., Ent. Dept.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - Small infestation found at Murfreesboro, Rutherford County, TENNESSEE; this is a new county record. Sizable infestation found at new location in Gibson County; surveys in other Tennessee counties negative. Surveys in several NORTH CAROLINA counties negative except for small extension in Wayne County; adults collected in known infested areas of Wilson, Lenoir and Pender Counties. Small extensions of infested areas found in Candler, Fulton, Laurens and Meriwether Counties, GEORGIA. Extensions of infested areas found in Baldwin, Jefferson, Madison and Morgan Counties, ALABAMA; infestation found in growing area of small nursery in Etowah County. Adults found in new areas in Benton, Lauderdale and Wayne Counties, MISSISSIPPI, and in previously treated areas in Itawamba and Jefferson Davis Counties. (PPC South. Reg., June Rpt.).

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata undecimpunctata) - OREGON - This and unspecified flea beetles heavily damaged field of broomrape in Douglas County. (Vertrees).

BANDED ALDER BORER (Rosalia funebris) - OREGON - Large numbers on walls of Douglas County Courthouse in Roseburg. Apparently attracted by black base coat paint used on building. (Vertrees).

LARGER YELLOW ANT (Acanthomyops interjectus) - IOWA - Swarming in Hancock County. (Iowa Ins. Inf., July 19).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - UTAH - Adults very numerous in blacklight trap at Logan, Cache County. (Davis, Knowlton).

A PSYCHID MOTH (Fumaria casta) - NEW HAMPSHIRE - Unusual number of inquiries concerning pupae. (Conklin).

EUROPEAN EARWIG (Forficula auricularia) - NEW HAMPSHIRE - Numerous reports noted. (Conklin, Sutherland).

AN ACARID MITE (Caloglyphus berlesei) - CALIFORNIA - Heavy in droppings at poultry ranch in Fontana, San Bernardino County. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 15(26):703 - An ANTHOCORID BUG (Montandoniella moraguesi Puton) should read Montandoniola moraguesi (Puton). Montandoniella is a palearctic genus and is not found in the Orient. This correction should also be made in Volume 15 on pages 9, 78 and 79.

CEIR 15(30):812 - BLACK CUTWORM (Agrotis ipsilon) - Should read: "... 70-acre field of corn ..."

CEIR 15(30):823 - CABBAGE LOOPER (Trichoplusia ni) - NEVADA - Should read: "... on potato foliage in Mason Valley ..."

(Weather continued from page 846).

inches and 6 to 13 inches at numerous spots in the west central section. The rains flooded lowlands along the small rivers and along the main stem of the Missouri River to below Jefferson City. Thunderstorms in eastern Kentucky and Tennessee dumped flood-producing rains that caused a few drownings and flood damage to residences and business properties. Middlesboro, Kentucky, received 8.4 inches in 6 hours. Rainfall over the rest of the State ranged from none to about 2 inches. A few spots in North Dakota, Nebraska, Kansas, Ohio, Texas, Georgia, and Florida received more than 2 inches. (Summary supplied by U.S. Weather Bureau).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Caripeta piniperda (coffee moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Feltia ducens (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Procopacia quinquecuttata (tobacco hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
ARKANSAS																								
Hope 7/15-21				4					0	37					3				7					
Morrilton 7/15-21				10					0	32					1				24					
Kelso 7/15-21				3					0	22					0				1					
Fayetteville 7/15-21				4					3	112					6				0					
FLORIDA																								
Gainesville 7/19			BL					2		2						1					6			
ILLINOIS (County)																								
Champaign 7/16-22	62-90	1.42		34										7	108	55			224		5	4		
MARYLAND																		spp.						
Centreville 7/13-19				22						0				73	13			0	89		2			
Snow Hill 7/13-19				18						15				119	53			3	246			35		
MASSACHUSETTS																								
East Wareham State Bog 7/11			BL															1						
MICHIGAN (Counties)																								
Berrien 7/17-23			BL	7											4	2			20					
Branch 7/17-23			BL	4											3	0			18					
Monroe 7/17-23			BL	5											2	1			23					
Kalamazoo 7/17-23			BL	0											2	0			11					
Jackson 7/17-23			2BL	9											4	1			44					
Livingston 7/17-23			BL	10											5	0			32					
Ionia 7/17-23			BL	8											7	0			48					
Saginaw 7/17-23			BL	9											7	0			28					
Sanilac 7/17-23			BL	11											4	0			32					
Bay 7/17-23			BL	8											3	0			41					
Ogemaw 7/17-23			BL	8											5	0			23					
Newaygo 7/17-23			BL	13											11	0			53					
Iron 7/17-23			BL	7											4	0			24					
Chippewa 7/17-23			BL	7											0	0			11					
Menominee 7/17-23			BL	8											4	0			28					
Schoolcraft 7/17-23			BL	3											1	0			5					
MINNESOTA																								
Worthington 7/10-16				5				0				0	0		2	0			9					
Fergus Falls 7/10-16				0				0				1	42		1	0			2					
Crookston 7/10-16				0				1				0	3		1	0			0					
Rochester 7/10-16				5				0				1	0		32	1			40					
Shakopee 7/10-16				0				0				0	0		0	0			3					
MISSISSIPPI																								
Stoneville 7/16-22	70-100	0.17	2BL	17			1	90	1	45					4	167		9	38	5	24	9		
Rolling Fork 7/16-22	69-98	1.34	BL	7			1	31	5	65					2	55		19	10	6	3	23		
Tunica 7/16-22	64-97		BL	15			2	121	5	69					2	58	1	22	9	4	6	72		

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chrysaroptis guillaris (grey cutworm)	Estigmene acrea (salt-marsh caterpillar)	Feronia diffusa (sweet potato armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege comstitalis (alfalfa webworm)	Loxostege sticticalis (sugar webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Papaipema nebris (wheat stem borer)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
MISSOURI																							
Portageville 7/17-23			BL	17						43				82	2	129			57				
NEW JERSEY																							
Aura 7/20,23										5				14		1		1	24				
Edinburg 7/20,23										4				39			1	1	101				
Masonville 7/20,23										16				12		2			58				
Seabrook 7/20,23										3				1		2			73				
Hardingville 7/20,23					8																		
Hurffville 7/20,23					6																		
NORTH DAKOTA																							
Fargo 7/16-23														1					1				
Trotters 7/16-23																			1				
Sheyenne 7/16-23													5	5					3				
Bismarck 7/16-23													5	4					4				
Williston 7/16-23													9	8									
OHIO (Counties)																							
Licking 7/16-22			BL	8															4				
Wayne 7/15-21			BL	5																			
Franklin 7/19-21			BL	6												2			10				
SOUTH CAROLINA																							
Charleston 7/19-25	66-92	0.83	BL	0		0		0	0	0					3	4	0	0	0		0	3	
SOUTH DAKOTA																sp.							
Brookings 7/14-21			BL	14										12		35			72				
TENNESSEE (County)																							
Knox 7/13-19				4				16		4					20	28	1	3	4		64		
TEXAS																							
Waco 7/17-23				4		4		51	6	237					12	29			1	4		85	
WISCONSIN																							
Platteville 7/13-19			BL	20						1				0	101				96				
Darien 7/13-19			BL							1				53					124				
Janesville 7/13-19			BL							0				26					74				
Evansville 7/13-19			BL							0				87					140				
Mazomanie 7/14-19			BL	9						0				1	7				45				
Madison 7/14-20	48-91		BL	112	7					0				2	49				176				
Middleton 7/14-20			BL	47	2					0				1	17				41				
De Forest 7/13-19			BL							0				1	8				40				
Arlington 7/13-19			BL							0				0					194				
Wayne 7/13-19			BL							0				9					46				
Theresa 7/13-19			BL							0				9					47				
Nenno 7/13-19			BL							0				0					35				

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
WISCONSIN (Continued)																								
Eden 7/13-19			BL								0				5					14				
Oakfield 7/13-19			BL								0				10					57				
Fox Lake 7/13-19			BL								1				22					57				
Beaver Dam 7/13-19			BL								0				52					101				
Danville 7/15-19			BL								1				10					90				
Clyman 7/13-19			BL	5							0				2					6				
Cedar Grove 7/13-19			BL	4							3				167					52				
Waldo 7/13-19			BL	18							0				12	5				50				

* BL - blacklight; I - incandescent; MV - mercury vapor; O - other

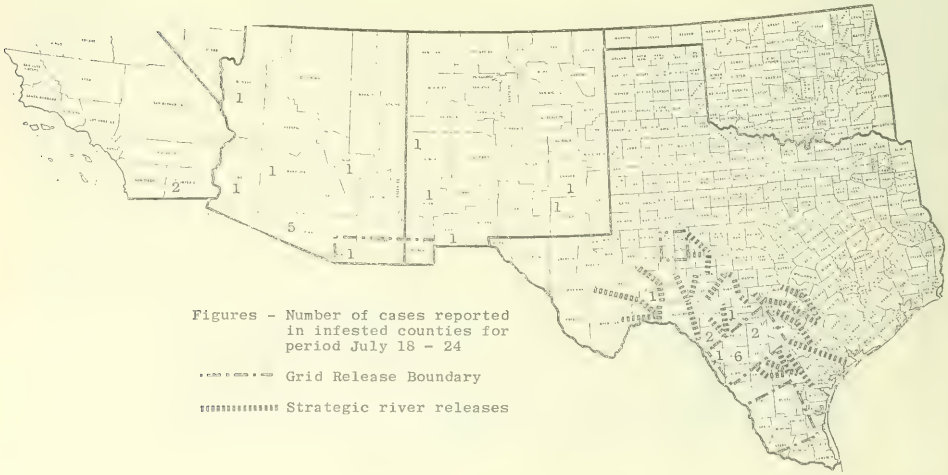
** alf. = alfalfa; beet = garden beet and/or sugar beet; cole - cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. - legumes (unspecified); lett. - lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period July 18 - 24, a total of 30 cases was reported in the Southwestern Eradication Area, as follows by States and counties: TEXAS - Medina 2, Zavala 6, Real 1, Terrell 1, Kinney 2, Maverick 1; ARIZONA - Gila 1, Yuma 1, Pima 5, Mohave 1, Maricopa 1, Santa Cruz 1; NEW MEXICO - 1 case each in Chaves, Eddy, Luna, Catron, Grant; CALIFORNIA - Imperial 2. The Republic of Mexico reported 177 cases: Sonora 39, Chihuahua 12, Coahuila 19, Tamaulipas 2, Territory Baja California Sur 27, Durango 58, Veracruz 8, San Luis Potosi 12. Sterile screw-worm flies released: Texas 24,166,250, New Mexico 4,120,000, Arizona 13,880,000, California 1,200,000, the Republic of Mexico 104,078,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding weeks in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	91	2,230	77	4,347	118.18	51.29
1964	3	104	70	4,063	4.28	2.55
1965	30	436	88	3,369	34.09	12.94
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	99	1,135	44	1,180	225.00	96.18
1965	122	2,653	59	1,395	206.77	190.17
Table 2A. Mexican portion of Barrier Zone only						
1964	93	1,056	27	493	344.44	214.19
1965	99	2,294	36	761	275.00	301.44

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Dis. Erad. Div.).



UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 August 6, 1965 Number 32

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GRASSHOPPERS increasing in western North Dakota, serious in Fool Creek area of Utah and threatening or more serious in Eddy County, New Mexico, and threatening in southern Black Hills in South Dakota; populations economic and damaging range and crop lands in Oklahoma and Texas. (p. 883). Second-brood EUROPEAN CORN BORER larvae noted in southern Illinois and southwest Minnesota; first-generation moth emergence very heavy in southwest Indiana; spraying of commercial sweet corn underway in southern Wisconsin. (pp. 884, 885). CORN EARWORM serious in canning corn in Utah and damaging field and sweet corn in Arizona. FALL ARMYWORM heavy in corn in southern Indiana and some general ARMYWORM larval infestations noted in Colorado. (pp. 885, 886). CORN ROOTWORMS (Diabrotica spp.) increasing in abundance and distribution in corn in several States. (pp. 886, 887). CORN LEAF APHID increased very rapidly in Michigan, populations generally high in Wisconsin and heavy on corn in northern Illinois; continues problem in other States. (pp. 887, 888). EARWIGS, including EUROPEAN EARWIG, damaging to some field and garden crops in Utah and Idaho, and annoying in areas of Utah, New Hampshire and New Jersey. (pp. 888, 897, 908).

SPOTTED ALFALFA APHID building up in Illinois and Wisconsin and continues problem on alfalfa in Arkansas. PEA APHID increased on alfalfa in North Dakota and counts remain high on this crop in Minnesota; building up on second-crop alfalfa in Utah. (pp. 888, 889). LYGUS BUGS of concern on alfalfa and cotton in some areas and TARNISHED PLANT BUG counts rather high on alfalfa, some vegetables and on cotton. (pp. 889, 896, 900). POTATO LEAFHOPPER heavy on alfalfa in Vermont, Illinois and Michigan, and heavy on cotton in California. (pp. 890, 900). A LEAFHOPPER (Empoasca mexara) and THREE-CORNERED ALFALFA HOPPER increasing on alfalfa in Arizona and latter pest also widespread on this crop in Brazos River Bottom area of Texas. ALFALFA WEEVIL caused decrease of 25 percent in hay yield in Idaho; growers quite concerned. (p. 890). WEBWORMS (Loxostege spp.) damaging alfalfa in Kansas and Oklahoma, and increased numbers of adults in light traps in Colorado could mean late infestations in beets. (pp. 891, 896).

MEXICAN BEAN BEETLE infestations in Monroe County, New York, heaviest in years and heavy numbers damaging beans in New Mexico. Number of GREEN CLOVERWORM adults in blacklight traps in Michigan indicate upward trend. (p. 895). Buildup of ALFALFA LOOPER unusually large on peas and other crops in northwest Washington. GREEN PEACH APHID flights heavy in New Jersey, with controls recommended for peppers and tomatoes; continues to increase on tobacco in southern Maryland. (pp. 897, 910).

BOLL WEEVIL becoming more important on cotton in several States. BOLLWORMS increasing in importance in cotton in South Carolina, Tennessee and Georgia; growers in California alerted for outbreaks. (pp. 898, 899). SPIDER MITES increasing on cotton in some Southern States and a problem in California. (pp. 900, 901).

SPRUCE BUDWORM flight very heavy in Michigan. An OLETHREUTID MOTH (Eucosma gloriola) serious on Christmas trees at Andover, New York. (p. 902). LOCUST LEAF MINER, FALL WEBWORM and MIMOSA WEBWORM damaging in some areas. (p. 903). NORWAY MAPLE APHID widespread on maples in several areas of Utah. (p. 904). MOSQUITOES a problem in several Central and Western States. (pp. 905, 906). FACE FLY a problem in Wisconsin and South Dakota; found for first time in Washington. (pp. 906, 910). Several FLY species annoying livestock in various States. (p. 906).

(Continued on page 882).

DETECTION

Discovery of an established infestation of FORMOSAN SUBTERRANEAN TERMITE (Coptotermes formosanus Shiraki) in a shipyard warehouse in Houston, Texas, is a new mainland United States record. Source of infestation is unknown, but apparently has been established for some time. (pp. 907, 908).

New State records reported include: An ARMORED SCALE (Mycetaspis personata) in Hawaii (p. 901); a SOFT SCALE (Pulvinaria acericola) in Maryland (p. 905); a DARKLING BEETLE (Cynaeus angustus) in Delaware (p. 908); a LANGURIID BEETLE (Languria trifasciata) in Florida (p. 909); FACE FLY (Musca autumnalis) in Washington (p. 910). New county records include: EUROPEAN CHAFER (Amphimallon majalis) in Westchester and Livingston Counties, New York, (p. 884); WESTERN CORN ROOTWORM (Diabrotica virgifera) in Adair and Scotland Counties, Missouri, (p. 886); FACE FLY in Clark, Putnam, Worth and Gentry Counties, Missouri, (p. 906).

CORRECTIONS and ADDITIONAL NOTES

See page 910.

SCIENTIFIC NAME CHANGE

The scientific name for PEA LEAF MINER, listed in the Common Names of Insects as approved by the Entomological Society of America as Liriomyza langei Frick, has been changed to Liriomyza bryoniae (Kaltenbach). See Spencer, K. A. 1963. Roy. Ent. Soc. London Trans. 115:359.

SPECIAL REPORTS

Hawaiian Insect Notes. (p. 901).

Status of the Screw-worm in the Southwest. (p. 914).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Sorghum, Hay, Alfalfa Seed and Soybeans in Nebraska in 1964. (pp. 915, 916).

Reports in this issue are for the week ending July 30 unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

AUGUST 1965

The Weather Bureau's 30-day outlook for August calls for temperatures to average well below seasonal normals in the eastern half of the Nation except for near to above normal in the Southeast. Over the western half, temperatures are expected to range from below normal over the southern Plateau Region to above normal in the northwestern quarter of the Nation. Rainfall is expected to exceed normal over the Atlantic Seaboard and Gulf Coast Region as well as over the southern Plateau. Subnormal amounts are anticpated over most of the Northwest as well as in the area extending from the Northern and Central Plains eastward to the Ohio Valley. Elsewhere near normal totals are in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

(Weather of the Week - see page 901).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - NORTH DAKOTA - Considerable increase in grasshopper nymphs and adults noted in some western areas. Marginal counts ranged 4-6 per square yard in Bottineau, McHenry, Ward, Oliver, Mercer, Dunn, Golden Valley, Slope, Billings and McKenzie Counties; field counts ranged 2-3 per square yard. Melanoplus bivittatus (two striped grasshopper) dominant species. Most in third and fourth instars; some second instars and adults present. (Cushing, Scholl, Burge). SOUTH DAKOTA - Grasshoppers damaged corn in southeast district along field edges. Counts in field edges in grass, stubble and cut alfalfa ranged 10-20 per square yard; grasshoppers mostly in third and fourth instars. (Jones, Kantack). Grasshoppers threatening in southern Black Hills at Pilger Mountain and north through Custer County to Pennington County, week ending July 27. Infestation light in large area in western sector of these 2 counties. (Zimmerman). MINNESOTA - Grasshopper development about normal during past 2 weeks. Generally, M. femurrubrum (red-legged grasshopper) in third to fourth instars, M. differentialis (differential grasshopper) in fourth and fifth instars, M. bivittatus in fifth instar to adult. Second cutting and removal of hay forced grasshoppers out of alfalfa into adjacent crops. Damage apparent only on marginal rows of corn and soybeans. (Minn. Ins. Rpt.). WISCONSIN - Little change noted in development of M. femurrubrum; first instars uncommon and fifth instars somewhat more common, although majority of nymphs in third and fourth instars further south and in third instar in northern areas. Movement into crops not yet pronounced. Adults of M. bivittatus and Atlanticus sp. (a tettigoniid) also noted. (Wis. Ins. Sur.). ILLINOIS - Melanoplus sp. nymphs, with occasional adults, vary 20-300 (average 150) per 100 sweeps in clover and alfalfa in southern part of State. (Ill. Ins. Rpt.). MISSOURI - Melanoplus spp. remain noneconomic in northeast, north central and northwest districts. (Houser, July 26-29). KANSAS - Grasshoppers generally light throughout most of State. Local populations in southwest ranged as high as 20 per square yard. (Simpson, July 23).

OKLAHOMA - Economic populations noted on 15,000 acres of grassland in Tillman County and 5,000 acres of grassland in Stephens County. M. bivittatus, M. sanguinipes (migratory grasshopper), M. occidentalis, Mermiria spp. and Phlibostroma quadrimaculatum dominant species. Unspecified grasshoppers reported damaging crops and rangeland in numerous counties in north central, northeast, west central, central, east central, southwest and south central areas. (Okla. Coop. Sur.). TEXAS - Grasshoppers reported damaging range and crop lands in most areas of State. (Texas Coop. Rpt.). NEW MEXICO - Grasshopper infestation threatening or more intense on approximately 13,000 acres west of Artesia, Eddy County. More than 90 percent of grasshoppers Drepanopterna femoratum, with Aulocara elliotti and various other species present. Approximately 20 different species ranged 3-6 per square yard on some 320,000 acres in area between Maljamar and Lovington in Lea County; D. femoratum, A. elliotti, Phlibostroma quadrimaculatum and M. occidentalis major species present. (Seaton). UTAH - Many winged forms of M. packardii (Packard grasshopper), M. bivittatus, Camnula spp., Dissosteira carolina (Carolina grasshopper), A. elliotti, M. sanguinipes and Trimerotropis spp. present in more heavily infested alfalfa in several seed-producing areas of Millard County. Grasshopper situation serious in Fool Creek area between Leamington and Oak City; controls applied to 800 acres of cropland and roadsides. Grasshoppers numerous and damaging home yards at Escalante, Garfield County; causing spotty damage in Millard County. Treatments made on 33,388 acres of rangeland and 1,500 acres of cropland in Tooele County; controls to begin in Garfield County soon. Controls applied to 1,000 acres in foothill area from Utah Hot Springs to Weber Canyon in Weber County. Grasshoppers numerous in areas south of Garden City, Rich County. (Thornley, Knowlton). WYOMING - Grasshopper adults and nymphs ranged 35-50 per 100 sweeps in barley in Big Horn County. Light damage to grain heads noted in more heavily infested fields. (Marks). IDAHO - Grasshoppers averaged 1-3 per square yard along margin of field of alfalfa for seed in northern Canyon County. (Homan). Grasshoppers general in Ada and Elmore Counties. (Hilfiker, Edwards, Portman). OREGON - Adults, mostly M. sanguinipes and Camnula pellucida (clear-winged grasshopper), ranged 15-28 per square yard on rangeland in Wallowa County northeast of Enterprise. High nymphal numbers indicate possible heavier damage at later date. (Parkinson).

MORMON CRICKET (Anabrus simplex) - OREGON - Light adult population noted in Zumwalt area of Wallowa County. (Parkinson).

BURROWING WEBWORMS (Acrolophus spp.) - TENNESSEE - Larvae causing spotty injury to bluegrass lawns in Anderson, Knox and Sevier Counties. (Tenn. Coop. Rpt.).

A SKIPPER - OKLAHOMA - Larvae heavy and damaging newly planted Bermuda grass in Blaine County. (Okla. Coop. Sur.).

EUROPEAN CHAFER (Amphimallon majalis) - First flights in NEW YORK June 3 in Brooklyn, June 7 in Newark and June 9 in Syracuse. Reported for the first time in Yonkers, Westchester County, and in Caledonia, Livingston County. Livingston County find is northward extension of general infestation. First recovery of specimens in NEW JERSEY noted at Port Newark June 8. Noted on June 10 in Erie area of PENNSYLVANIA. (PPC East. Reg., June Rpt.).

A BILLBUG (Sphenophorus sp.) - TENNESSEE - Feeding on Bermuda grass lawns in Knox County. (Mullett).

WHITE GRUBS - UTAH - Damaging several lawns in Salt Lake City and Holladay areas of Salt Lake County. (Knowlton).

GRASS BUGS - UTAH - Black species damaged crested wheatgrass from south of Alton through portions of Johnson Canyon, Kane County. (Knowlton).

A SPITTLEBUG - GEORGIA - Infesting several fields of Coastal Bermuda grass in Lamar County (Tippins) and infesting same host in Walton County (Brown).

GROUNDPEARLS - SOUTH CAROLINA - Causing considerable concern on centipede grass in Charleston County. (Nettles et al., July 27).

A DESERT TERMITE (Amitermes sp.) - TEXAS - Light, local infestations, probably a species of this genus, present on range grasses in Montague County. (Texas Coop. Rpt.; Turney, Stafford).

EUROPEAN CORN BORER (Ostrinia nubilalis) - ILLINOIS - Egg masses vary 0-30 (average 16.3) per 100 corn plants in southern area; some eggs hatched, with first and second-stage larvae observed. First-generation survey completed. State average of 2.13 borers per 100 plants is lowest first-generation population observed since survey begun in 1955. Previous low was 3 borers per 100 plants in 1961 and high was 100 in 1956. (Ill. Ins. Rpt.). INDIANA - First-generation adult emergence very heavy in southwest corner of State. In Posey County, 854 adults taken in blacklight trap July 17-23. Adult emergence generally well underway throughout southern half of State; some light emergence noted in northern half of State. (Huber). OHIO - Populations generally low and noneconomic. Development ranges third-stage larvae through adult in Van Wert County. (Barry). MICHIGAN - Range of 3-6 larvae per 25 plants found in sweet corn in 4 fields in Wayne and Washtenaw Counties July 27. (Newman). WISCONSIN - Adult emergence underway in more advanced areas in southern portion of State. Percent emergence as follows: 20 at Brodhead and 30 at Spring Green; 12 in Richland and 16 in Grant Counties. Population too low to produce reliable results in corn checked in Vernon, La Crosse, Crawford, Iowa and lower Columbia Counties. In Grant County, 58.3 percent of fifth-stage larvae examined were parasitized. Few larvae noted to have left stalks and boring into ear tips of sweet corn in Rock County. Spraying of commercial sweet corn in southern counties well underway. (Wis. Ins. Sur.). MINNESOTA - Pupation noted in southwest and south central districts; some moth flights observed in southern counties. Number of infested plants per 100, by district, as follows: Southwest 27, south central 26, west central 15, central 10. Percent larvae in third and fourth stages, 60 in southwest, 71 in south central, 55 in central; 52 percent of larvae in first stage in west central district. First and second-stage larvae found in field of oats in southwest district; causing white heads. Counts very low. (Minn. Ins. Rpt.).

SOUTH DAKOTA - Damaged cornstalks in untreated fields in southeast district. Approximately 60 percent of whorls damaged in fields examined. Larvae also found in some cobs, (Jones, Kantack). NEBRASKA - Some adult emergence noted in Hall and Cuming Counties; pupation 50-65 percent in Hall County, less than 25 percent in Cuming County. (Rhine). KANSAS - Few larvae observed in Stafford County corn. (Painter, July 23). MISSOURI - Pupation nearly complete and second-generation adults emerging in Pemiscot County. (Keaster). Egg laying by first-generation adults begun in northern third of State; egg masses range up to 188 per 100 plants on corn not tasseled and 110 on corn shedding pollen in Atchison and Nodaway Counties. First-generation adult emergence approximately 25 percent in area. (Thomas, Houser). MARYLAND - Light to date in late corn in all sections. (U. Md., Ent. Dept.). DELAWARE - Adults continue to increase in blacklight trap collections in Sussex County; average 25 per night. (Burbutis, Woodall). NEW JERSEY - Adult numbers increasing in light traps. Growers applying controls throughout State. (Ins.-Dis. Newsltr.). NEW YORK - Adult emergence from collections of first-brood pupae continued. Second-brood eggs expected to hatch next week. (N.Y. Wkly. Rpt., July 26). RHODE ISLAND - Small infestation reported on sweet corn in Esmond, Providence County. (King).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSOURI - Second generation pupating in Pemiscot County. (Keaster).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ARIZONA - Damaging sorghums in scattered areas throughout Yuma County. Damage particularly heavy on young seedling sorghums. Moderate to heavy damage to peanuts found in fields in Yuma Mesa area. (Ariz. Coop. Sur.). GEORGIA - Extremely heavy in sorghum in Coffee County. (French).

CORN EARWORM (Heliothis zea) - ARIZONA - Damaging field and sweet corn in Maricopa and Pinal Counties; controls not effective. (Ariz. Coop. Sur.). UTAH - Occasional moth taken in blacklight trap at Benjamin, Utah County. (Knowlton, Duncan). Situation serious in Utah County, with up to 75 percent of ears of canning corn infested. (Knowlton). COLORADO - Adults increasing in light traps in Mesa County. (Urano). Feeding in leaf whorls of corn in Fort Collins, Johnstown and Greeley areas of Larimer and Weld Counties. Damage not yet serious. (Hantsbarger, Urano). KANSAS - Larvae present in 10 percent of whorls of corn and eggs easily found on silk in Stafford County. (Painter, July 23). Infestation, mostly young larvae, 30 percent in Harvey and Reno Counties; infestation of very young larvae 75 percent in Ellis County. (Simpson, July 23). OKLAHOMA - Moderate in corn and sorghum in Cimarron County; ranged 20-32 per 100 heads in grain sorghum checked in Rogers and Craig Counties; averaged 80 per 100 ears in mature corn in Choctaw County. (Okla. Coop. Sur.). TEXAS - Light in Robertson County grain sorghum. (Randolph). GEORGIA - Light in peanuts in Early County. (Morgan). SOUTH DAKOTA - Third to fourth-stage larvae infesting less than 1 percent of ears of irrigated corn south of Parker, Turner County. (Jones). MARYLAND - Light to moderate in ears of sweet corn being harvested for processing in Queen Annes County. (U. Md., Ent. Dept.). DELAWARE - Adult numbers increasing in blacklight trap collections in Sussex County; average 7 per night. (Burbutis, Woodall). NEW JERSEY - Adult collections increasing in light traps; growers applying controls to corn throughout State. (Ins.-Dis. Newsltr.).

FALL ARMYWORM (Spodoptera frugiperda) - ILLINOIS - Heavy in corn in southern area. Larvae present in all corn not yet tasseled in southern area; this approximately 3-4 percent of fields in area; 4-80 percent of plants infested with 0-300 larvae per 100 plants. All stages from eggs through larvae to adults observed. (Ill. Ins. Rpt.). MISSOURI - Damage observed on 2-10 percent of corn plants in fields checked in northern fourth of State; 90 percent of larvae left plants and pupating. (Thomas). KANSAS - Larvae reported infesting 75 percent of corn in Stafford County. (Painter, July 23). COLORADO - Some general infestations of this species and other cutworms noted on all crops in Weld and Larimer Counties. Controls warranted in many instances. (Urano, Jenkins, Hantsbarger). TEXAS - Moderate locally in Bailey County grain sorghum. (Texas Coop. Rpt., Hanson).

ALABAMA - Two or more larval generations destroying 15-acre field of corn in Lee County. Heavy, localized infestation occurring on Coastal Bermuda grass near Tuskegee, Macon County; 2 larval generations present. Larval outbreak occurring on commercial zoysia and Bermuda grass plantings on farm near Auburn, Lee County. (Arant et al.). GEORGIA - Heavy in pastures in Crisp County. (Nix). MARYLAND - Whorl infestations ranged 9-14 percent in late field and sweet corn in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). NEW JERSEY - Adults catches in light traps increasing. Growers applying controls statewide. (Ins.-Dis. Newsltr.

ARMYWORM (Pseudaletia unipuncta) - COLORADO - Some general infestations occurring in Weld and Larimer Counties. Controls warranted in many instances. (Urano, Jenkins, Hantsbarger). Larvae heavy in barley in Weld County; ranged 1-8 per plant in Longmont, Prospect Valley and Wiggins areas. Controls applied. (Urano). NEBRASKA - Larvae ranged 25-30 per square foot in oats and barley in North Platte River Valley from Bridgeport west to State line. Larvae moving into corn, alfalfa and beans as small grain cut. (Hagen).

BLACK CUTWORM (Agrotis ipsilon) - COLORADO - Adult numbers increasing in light traps in Weld County. (Urano). WISCONSIN - Although larval infestations not noted, high potential exists as evidenced by high moth catches in southeastern counties. Counts in Madison County blacklight trap reached 2 peaks between July 10 and July 20 compared with single peak July 5-10 in 1964. (Wis. Ins. Sur.)

SORGHUM WEBWORM (Celama sorghiella) - TEXAS - Counts of 2-18 larvae per head observed in local areas of Robertson County; larvae very small. (Randolph). OKLAHOMA - Light in grain sorghum in Payne County. (Okla. Coop. Sur.).

STALK BORER (Papaipema nebris) - INDIANA - Late-stage larvae infested 25 percent of corn examined in one area of Jefferson County. (White).

CUTWORMS - MISSOURI - Severe damage reported to late planted corn in west central district in areas recently inundated by flood waters. (Thomas, July 23). UTAH - Heavy numbers in grass pastures at Tropic, Garfield County, moving into nearby gardens. (Knowlton).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - WISCONSIN - Adults becoming more noticeable, although high percentage of pale individuals indicates peak not yet reached. Average counts per plant by county as follows: Vernon 1.5, La Crosse 1, Grant 0.3; averaged 3 per ear in a Rock County field, with much silk feeding observed. (Wis. Ins. Sur.). INDIANA - Adults active in corn throughout State. Ranged from 1 per 5 silks to 12 per silk; averaged 1-2 per silk. Infestations scattered. (Huber, Saugstad). MICHIGAN - Sizeable adult populations emerging from research plots in Washtenaw County. (Wells). OHIO - Adults generally widespread over State. Heavy infestation observed south of Van Wert, Van Wert County; adults averaged 5 per nonsilking plant and 15 per silking plant. Roots appeared heavily damaged. (Barry, Polivka). Severe infestation reported in Fairfield County; adults averaged 12 per silk. (Cook Jones). Adults reported infesting corn and silks in Union, Darke and Hardin Counties. (Wilson et al.). NEW YORK - Larvae, pupae and adults found in field corn in Genessee Valley. (N.Y. Wkly. Rpt., July 26).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - COLORADO - Damage to corn noted in Logan County; plants beginning to lodge. Field treated prior to heavy rains in June and was flooded. (Hantsbarger). NEBRASKA - Some heavy root damage and lodging of corn noted in scattered fields in Hall and Cuming Counties. Averaged 5 adults per cornstalk in some fields. (Rhine). MISSOURI - Adults collected in Adair and Scotland Counties. These are new county records. (Peters, Craig, July 26).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - INDIANA - Adults very common in blacklight traps throughout State July 17-23; ranged 25-505. (Huber).

CORN ROOTWORMS (Diabrotica spp.) - SOUTH DAKOTA - Adult numbers of D. virgifera (western corn rootworm) and D. longicornis (northern corn rootworm) increasing. In majority of fields in Clay, Yankton, Bon Homme, Charles Mix, Hutchinson, Turner and Lincoln Counties, adults varied 1-4 per corn silk; in heavily infested fields, where adult emergence underway, counts ranged 15-20 per silk. D. virgifera adults predominate in most fields, although equal numbers of D. virgifera and D. longicornis present in few fields. Few D. undecimpunctata howardi (southern corn rootworm) also noted. Diabrotica spp. infestations found on first year corn on oat stubble in Turner, Hutchinson and Yankton Counties; one of these infestations present on treated field. (Jones). MINNESOTA - Generally light adult numbers of D. longicornis and D. virgifera appearing in corn. Up to 5 per plant noted in occasional field, but less than 1 per plant present in most fields. Larval development varies, but most in third stage and prepupal stage. D. longicornis development ahead of D. virgifera. Damaged plants easily found; plants stunted with delayed tassel emergence. Generally, damaged plants not so green, especially in drier areas. Although noted in heavily damaged fields, lodging not prevalent generally. Checking stunted plants for root feeding appears best method to determine rootworm damage at this time. (Minn. Ins. Rpt.). KANSAS - Adults of D. undecimpunctata howardi and D. longicornis ranged 2-4 per plant in southwest and south central districts; silk damage noticeable. Diabrotica spp. larval damage reported as heavy in Brown County. (Sloan, July 23). MISSOURI - Adults of D. virgifera and D. longicornis ranged 0-30 (average 4-7) per plant in northern fourth of State. Adult emergence nearly complete. (Houser, Thomas, July 26-29).

CORN FLEA BEETLE (Chaetocnema pulicaria) - ILLINOIS - Adults ranged 5-10 per plant in late corn in southern part of State. (Ill. Ins. Rpt.).

SAP BEETLES (Glischrochilus spp.) - MICHIGAN - Adults common in ears of sweet corn, in aphid colonies near corn tassels, on ripe and overripe fruits and vegetables, around picnic tables and in other situations. (Gradius, Wells, Thompson). OHIO - G. quadrisignatus reported burrowing into tassels and whorls of field corn in field near Wellington, Lorain County; severity of infestation warranted 2 control applications. (Eaton, Rings).

WIREWORMS - MARYLAND - Severely injured 2 acres of whorl-stage field corn near Church Hill, Queen Annes County. (U. Md., Ent. Dept.).

CORN LEAF APHID (Rhopalosiphum maidis) - MICHIGAN - Built up very rapidly during past 2 weeks in Ingham and Shiawassee Counties where corn under stress from drought. Most field hybrids checked subject to attack with little evidence of plant resistance noted. Colonies on field corn concentrated in tassel area; on sweet corn checked July 27 in Wayne and Washtenaw Counties, most aphids in husks. Level of infestation ranged 7-10 colonies per 25 plants with 60-85 aphids per colony. Populations in field corn extremely variable; some young plants without tassels showed no aphids while tasseling plants in same field harbored more than 200 individuals. No maize dwarf mosaic, transmitted by this aphid, found in State to July 30. (Wells, Smith, Newman). OHIO - Particularly heavy infestation noted on field corn near New Bedford, Coshocton County; nearly 100 percent of plants infested. Corn about 4 feet tall and tassels not yet showing. Lesser infestation of about 20 percent noted in field at Loudonville, Holmes County. (Rose). Reports of infestations on field corn in Williams, Franklin and Montgomery. Counties indicate possible statewide occurrence. (Wallace et al.). INDIANA - Decreasing on early planted corn that has tasseled; however, on corn just tasseling, 20-90 percent of plants infested in some localized fields in southern third of State, as well as in east central region. Generally, infestation light in most fields with 2-8 percent of plants heavily to severely infested. (Huber, Saugstad, White). ILLINOIS - Heavy in some fields of corn in northern half of State; infestation ranged 0-100 (average 31) percent of plants. Controls applied to many seed-corn fields. (Ill. Ins. Rpt.). WISCONSIN - Populations generally high with 80-100 percent of corn plants infested in Dane, Richland, Vernon, La Crosse, Trempealeau, Rock and Green Counties. Counts averaged 500 or more per plant on 5-20 percent of plants. Infestation somewhat lower in Grant, Iowa and

portions of Columbia Counties, although at least 50 percent of plants infested. Lady beetle adults, larvae and eggs becoming increasingly more common in more heavily infested fields. (Wis. Ins. Sur.). MINNESOTA - Present in nearly all fields of corn and found on high percentage of plants. Not generally considered to cause economic damage in most years. Spraying in some fields may be justified especially in hybrid corn seed fields. Growers advised to check own fields to determine need for treatment. Predators and parasites active in all fields and tend to reduce or check aphid populations. (Minn. Ins. Rpt.). NORTH DAKOTA - Building up on corn in some areas. (Frye, Thomasson). SOUTH DAKOTA - Present in all fields of corn and on most constalks examined in southern section of State. Damage considered minor. Lady beetles, damsel bugs, syrphid flies and Chrysopa spp. (green lacewings) common but in undetermined and varying numbers. (Jones). NEBRASKA - Moderate populations noted on most corn tassels throughout State. (Rhine). KANSAS - Light on corn throughout most of western half of State. (Simpson, July 23). IDAHO - Infesting most grain sorghum plants in field in Canyon County; serious in field of barley in Murphy area, Owyhee County. (Homan, Thornton). NEW YORK - Appearing in many areas on corn varieties with white or light colored tassels. (N.Y. Wkly. Rpt., July 26). DELAWARE - Present on corn in most areas of Kent and Sussex Counties. (Burbutis, Woodall). MARYLAND - Light numbers evident but expected to increase on corn in all sections. (U. Md., Ent. Dept.). ALABAMA - Severe and damaging 125 acres of grain sorghum in Montgomery County. Controls necessary. (McCabe).

ENGLISH GRAIN APHID (Macrosiphum avenae) - WYOMING - Adults and nymphs numerous in barley in Washakie County; ranged 0-80 per plant. Harvesting underway in most areas. (Marks). NORTH DAKOTA - Aphids continue to build up on wheat and other grains in northeast; up to 50 per sweep taken in some areas. M. avenae dominant species; Schizaphis graminum (greenbug) also present. (Frye, Thomasson). MINNESOTA - Counts remain unchanged in maturing small grain. Grain harvest underway, controls not advised. (Minn. Ins. Rpt.).

GREENBUG (Schizaphis graminum) - MINNESOTA - Counts remain unchanged in maturing small grain. Harvest underway, controls not recommended. (Minn. Ins. Rpt.).

CHINCH BUG (Blissus leucopterus) - KANSAS - Reported on sorghum at Dwight, Morris County. (Simpson, July 23). OKLAHOMA - Moderate on grain sorghum in Rogers County; light in other northeastern counties checked. (Okla. Coop. Sur.). NEW JERSEY - Active in several areas; adult and nymphs usually present. (Ins.-Dis. Newsltr.). NEW YORK - More damaging to lawns in Nassau County than last year. (N.Y. Wkly. Rpt., July 26). CONNECTICUT - Damaging lawns in many parts of State. (Savos).

A CHINCH BUG (Blissus sp.) - TEXAS - Continued to infest grain sorghum in Waller County. (Randolph).

EARWIGS - UTAH - Damaging silks of early market corn at Willard, Box Elder County; present in 50 percent of ears in 50-ear sample at Willard. Common in silking corn in Kane County. (Dorst, Knowlton). IDAHO - Forficula auricularia (European earwig) population high around margin of field of sweet corn in Payette County; continue problem around homes in area. (Homan).

SORGHUM MIDGE (Contarinia sorghicola) - OKLAHOMA - Light numbers appeared in grain sorghum in Payne County. (Okla. Coop. Sur.). TEXAS - Light, widespread infestations present in Collin County grain sorghum. (Turney). Considerable numbers of adults noted swarming about heads of grain sorghum in Robertson County. (Randolph). Adult numbers in south plains area less than previous week and less than in 1964. Infestations very light in area; first adult on grain sorghum seen in staggered planted field in Lubbock County July 26 and averaged less than 1 per head. (Daniels, Rummel, Harding).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Noted in nearly all alfalfa checked in Dane, Rock, eastern Green, and southern Columbia Counties. Populations ranged from 2 per 10 sweeps to 200 per sweep. Averaged 15 per sweep

in most fields infested in 1964, with lower counts in fields recently infested. Relatively high numbers present in fields where Acyrthosiphon pisum (pea aphid) populations collapsed as well as in fields where A. pisum numbers still persist. In most fields, T. maculata populations double or triple those of previous week although high incidence of parasitized individuals present. (Wis. Ins. Sur.). ILLINOIS - Building up to damaging numbers in few fields of alfalfa in southern area. Varied 0-60 (average 17.5) per sweep. Some discoloration and dropping of lower leaves observed. This damage being helped by hot, dry weather of past 2 weeks. (Ill. Ins. Rpt.). KANSAS - Light on alfalfa in Finney and Kearny Counties. (DePew, July 23). OKLAHOMA - Reported moderate to heavy in alfalfa in Grady, Kingfisher, Stephens, Garvin, Muskogee, Blaine and Payne Counties. Averaged 325 per 10 sweeps in Nowata County and 25 per 10 sweeps in Choctaw County. Some spraying done. (Okla. Coop. Sur.). ARKANSAS - Continues a problem on alfalfa in Crittenden County. (Ark. Ins. Sur.). NEW MEXICO - Moderate to heavy infestations in alfalfa required controls in Chaves County. (Campbell). ARIZONA - Decreased rapidly on alfalfa in Yuma and Maricopa Counties. (Ariz. Coop. Sur.). UTAH - Very light in alfalfa in Kanab-Glendale area, Kane County. (Knowlton). NEVADA - Varied 0-5 per sweep in alfalfa in Moapa and Virgin Valleys, Clark County, and 1-5 per sweep in Pahrump Valley, Nye County; none observed in Lincoln County alfalfa. (Cooney).

PEA APHID (Acyrthosiphon pisum) - NEVADA - Only occasional specimens found in alfalfa checked in Moapa and Virgin Valleys, Clark County; varied 0-2 per sweep in fields checked in Lincoln County and 0-10 per sweep in Pahrump Valley, Nye County. (Cooney). UTAH - Building up on some second-crop alfalfa in Escalante, Tropic, Henrieville and Cannonville areas, Garfield County. (Knowlton). WYOMING - Adults and nymphs remain about constant in alfalfa in Big Horn, Washakie, Hot Springs and Fremont Counties; averaged 700 per 100 sweeps. (Marks). KANSAS - Moderate on alfalfa in southwest; ranged 50-100 per 100 sweeps. (Simpson, July 23). NORTH DAKOTA - Increased on alfalfa in some areas; 200 per sweep noted near Woodworth, Stutsman County. (Frye, Thomasson). MINNESOTA - Counts remain high on alfalfa in all districts; average per 100 sweeps, by district, as follows: South central 10,033, southwest 2,871, west central 550, central 1,500. Predator numbers increased but show little control of aphid populations. Second cutting of alfalfa and hay removal underway; should eliminate aphid problem temporarily. (Minn. Ins. Rpt.). WISCONSIN - Numbers continue to fluctuate with complete population collapse noted in many fields on sandier soils. Population generally remains higher on taller and more dense stands of alfalfa than in sparse stands. Counts still as high as 100 per sweep in few fields; range 20-40 per sweep in many fields in western counties. (Wis. Ins. Sur.). ILLINOIS - Varied 0.2-120 (average 37) per sweep in alfalfa in southern area. (Ill. Ins. Rpt.). INDIANA - Ranged 3-20 per sweep on alfalfa in southern third of State (White, Saugstad) and 3-8 per sweep in northern half of State (Huber). MARYLAND - Averaged over 150 per sweep on 16-acre field of alfalfa near Thurmont, Frederick County. (U. Md., Ent. Dept.).

LYGUS BUGS (Lygus spp.) - NEVADA - Counts per sweep in alfalfa ranged as follows: Clark County, 4-40 in Moapa Valley and 5-20 in Virgin Valley; Lincoln County, 8-20; Nye County, 10-75 in Pahrump Valley. (Cooney). IDAHO - Range up to 9 per sweep in untreated alfalfa-seed fields in Elmore County. (Edwards, Portman). UTAH - Nymphs and adults present in blossoming alfalfa-seed fields in Kanosh and Delta-Abraham areas of Millard County. (Knowlton). NEW MEXICO - Averaged 70 adults and nymphs per 25 sweeps in seed alfalfa in Eddy and Chaves Counties prior to application of controls. (Campbell).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Nymphs and adults common on soybeans and alfalfa in Kent and Sussex Counties. (Burbutis, Woodall). MARYLAND - Numbers high in most alfalfa checked in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). OKLAHOMA - Ranged 8-10 per 10 sweeps in alfalfa checked in Choctaw and Caddo Counties. (Okla. Coop. Sur.).

PLANT BUGS (Adelphocoris spp.) - OHIO - A. lineolatus (alfalfa plant bug) adults ranged 2-3 per sweep in alfalfa in Holmes and Knox Counties; most common plant bug present. (Rose). INDIANA - A. lineolatus averaged 5-7 per sweep in alfalfa in southern half of State (White); ranged 1-6 per sweep in late, second-growth alfalfa in northern half of State (Huber). ILLINOIS - A. lineolatus adults vary 10-300 (average 97.5) and nymphs 100-180 (average 133) per 100 sweeps in southern area alfalfa. (Ill. Ins. Rpt.). MINNESOTA - A. lineolatus and A. rapidus (rapid plant bug) eggs hatching; nymphs present in all alfalfa surveyed. Counts per 100 sweeps ranged 10-105 in southwest, south central, central and west central districts. (Minn. Ins. Rpt.). UTAH - A. superbus (superb plant bug) light in alfalfa in Nephi area of Juab County and at Leamington, Millard County. (Knowlton).

GARDEN FLEAHOPPER (Halticus bracteatus) - ILLINOIS - Adults vary 0-60 (average 23) per 100 sweeps in soybeans in southern part of State. (Ill. Ins. Rpt.).

POTATO LEAFHOPPER (Empoasca fabae) - VERMONT - Exceptionally heavy on alfalfa; averaged 5 per 6 sweeps. Yellows widespread and easily detectable from roads; controls recommended. (MacCollom, July 26). MARYLAND - Ranged 3-50 (average 17) per sweep in 5 fields of alfalfa checked in Frederick County. (U. Md., Ent. Dept.). MICHIGAN - Adults reported relatively high on alfalfa in many Lower Peninsula counties; ranged 3.5-6 per sweep in Wayne County and 5-10 per sweep in Livingston County July 27. (Janes, Wells, Newman). INDIANA - Ranged 1-4 per sweep in alfalfa in southernmost areas and 6-16 per sweep on blossoming alfalfa in northern third of State. Populations predominantly nymphs in all areas checked. (Huber, Saugstad). ILLINOIS - Adults varied 40-480 and nymphs 80-2,300 (average 645) per 100 sweeps in alfalfa in southern part of State. (Ill. Ins. Rpt.). WISCONSIN - Populations relatively unchanged, with some decrease noted in few instances. Ranged 1-8 per sweep in western counties. Nymphal counts of 100 or more per sweep noted in few fields in sandier soiled areas. Such fields not common as most alfalfa closely cut in such areas. (Wis. Ins. Sur.).

LEAFHOPPERS - ARIZONA - Empoasca mexara increasing in alfalfa in Yuma County, particularly in northern Gila Valley and on Yuma Mesa; averaged 180 per 100 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Unspecified species abundant in fields of grain sorghum in Luna County. (Mathews).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Populations increasing in alfalfa in Yuma, Maricopa and Pinal Counties. (Ariz. Coop. Sur.). TEXAS - Widespread infestations reported on alfalfa in Brazos River bottom area. (Wipprecht). Light on young sunflower plants in Brazos County. (Randolph). ARKANSAS - Averaged 0.5 adult and 0.5 nymph per 30 feet of row in several fields of soybeans in Lee County. (Ark. Ins. Sur.).

ALFALFA WEEVIL (Hypera postica) - IDAHO - Populations in hay fields 90 percent 1965 adults. Many dead larvae noted in fields; about 50 percent of cocoons contain dead larvae, pupae or adults. Decrease in hay yield averages 25 percent; growers quite concerned. Applications of a certain carbamate not killing adults. Grasshoppers in treated fields only reduced in numbers, not controlled. Many growers will treat fields in fall before winter weather begins. (Alzola, Portman). NEVADA - Adults and larvae in alfalfa varied 0-4 per sweep in Caliente, Pahranagat Valley and Panaca, Lincoln County. (Cooney). WYOMING - Adults increasing and larvae decreasing in alfalfa in Big Horn, Washakie, Hot Springs and Fremont Counties. Counts per 100 sweeps ranged 70-125 adults and 50-85 larvae. (Marks). KANSAS - Adults averaged 3-4 per 10 sweeps in Finney County alfalfa. (Simpson, July 23). ILLINOIS - Adults vary 0-6 and larvae 0-1 per 100 sweeps in southern area alfalfa. (Ill. Ins. Rpt.). TENNESSEE - Light on alfalfa in Johnson County. (Tenn. Coop. Rpt.). VERMONT - Pupation about over; very few adults in fields. Extent of this season's northward movement now runs from general area of Charlotte, Chittenden County, southeast through Rochester and Royalton, Windsor County, east to Connecticut River. (MacCollom, July 26).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Adults light to moderate on soybeans in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.). SOUTH CAROLINA - Light, scattered infestations reported on soybeans in Berkeley County. (Nettles et al., July 27). ARKANSAS - Averaged 1.5 per 30 feet of row in several fields of soybeans in Lee County. (Ark. Ins. Sur.). INDIANA - Light to medium feeding observed on soybeans throughout southern third of State. (Saugstad, White).

A SPOTTED CUCUMBER BEETLE (Diabrotica sp.) - NEVADA - Adults in alfalfa ranged 1-8 per sweep in Moapa and Virgin Valleys, Clark County, and averaged 1 per sweep in Pahrump Valley, Nye County. (Cooney).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - Larvae per 100 sweeps varied 0-60 (average 37) in soybeans and 20-80 (average 55) in clover and alfalfa. (Ill. Ins. Rpt.). ARKANSAS - Averaged 12 per 30 feet of row in several fields of soybeans in Lee County; mostly first and second-stage larvae. (Ark. Ins. Sur.). MARYLAND - Light to moderate on soybeans in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.). DELAWARE - Adults very common in blacklight trap collections in Sussex County; larvae common in soybeans and alfalfa in most areas of State. (Burbutis, Woodall).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - IDAHO - Heavy larval populations (mostly full grown) general on lentils throughout Latah County. Considerable damage resulting from feeding on pods and cutting of pods from plants. Controls applied to some fields. (Futter, Manis). UTAH - Moderate numbers of young to full-grown larvae noted in alfalfa in Kanosh and Delta areas, Millard County. (Knowlton).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Larvae heavy in alfalfa in Klamath County July 20. (Hanna). COLORADO - Adult numbers increasing in Mesa County light traps. (Urano).

ALFALFA LOOPER (Autographa californica) - OREGON - Medium infestations noted in alfalfa in Klamath County July 20. (Hanna).

CLOVER CUTWORM (Scotogramma trifolii) - COLORADO - Numbers of adults increasing in Mesa County light traps. (Urano).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - GEORGIA - Light on peanuts in Early County. (Morgan).

WEBWORMS (Loxostege spp.) - KANSAS - Ranged 25-40 per 5 sweeps in Harvey County alfalfa; considerable feeding observed. (Simpson, July 23). OKLAHOMA - Moderate numbers reported damaging alfalfa in Muskogee, Cleveland and Garvin Counties. Light (2 per 10 sweeps) in Choctaw County. (Okla. Coop. Sur.). MISSOURI - L. similalis (garden webworm) larvae still present in alfalfa in northern fourth of State; no economic infestations observed; averaged 200 per 100 sweeps. Larval activity underway in late planted soybeans in area, but noneconomic at present. (Houser, July 26-29).

THRIPS - UTAH - Extremely numerous in blossoms in many fields of alfalfa for seed in Millard County. (Knowlton). DELAWARE - Increasing on soybeans in some areas of Sussex County. (Burbutis, Woodall).

SPIDER MITES - NEVADA - Light on alfalfa and corn in Pahranagat Valley, Lincoln County. (Cooney). ILLINOIS - Varied 0-20 (average 7) per 100 leaflets in southern area soybeans. (Ill. Ins. Rpt.). MARYLAND - Heavy in garden sweet corn at Salisbury, Wicomico County. Tetranychus atlanticus (strawberry spider mite) light to moderate on soybeans at several Eastern Shore locations. (U. Md., Ent. Dept.).

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Considerable damage noted on seed heads of sunflower in Brazos County. (Randolph).

FRUIT INSECTS

EUROPEAN RED MITE (Panonychus ulmi) - VERMONT - Subsiding in most problem areas due to control practices. (MacCollom, July 26). CONNECTICUT - Nymphs easily found in Storrs. Careful checking of blocks urged. (Savos, July 28). NEW JERSEY - This and Tetranychus telarius (two-spotted spider mite) increasing rapidly on apples; possibly on peaches also. Controls recommended. (Ins.-Dis. Newsltr.). OHIO - Adults and nymphs increasing rapidly in many apple orchards in southwest. (Wooley, Carpenter). COLORADO - Reported in CEIR 15(31):857 as taken for first time in orchard on Rogers Mesa, Delta County, is first report of this mite in the State. (PPC). IDAHO - Populations general throughout apples and pears in southwest. (Horn).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - VERMONT - Building up rapidly in some orchard blocks. (MacCollom, July 26). CONNECTICUT - This species outnumbers Panonychus ulmi (European red mite) about 3 to 1. Careful checking of all blocks urged to prevent late season buildup. (Savos, July 28). WISCONSIN - Reported increasing in Door County. (Wis. Ins. Sur.). COLORADO - Building up on cover crops and bindweed in apple orchards in Garfield and Delta Counties. Miticides necessary in all cover sprays. (Bulla).

SPIDER MITES - MARYLAND - Definite problem on apples in Salisbury area, Wicomico County. (U. Md., Ent. Dept.). MISSOURI - Panonychus ulmi (European red mite) and Tetranychus telarius (two-spotted spider mite) heavy on some peaches in southeast section and present in apple and peach orchards in all areas. Most growers have adequate control but should be alert to prevent destructive buildup during remainder of season. (Wkly. Rpt. Fr. Grs.). NEW MEXICO - Tetranychus sp. building up rapidly in many orchards; damage severe in untreated and improperly treated orchards in northern San Juan County. (Albert). OREGON - P. ulmi and T. telarius reported more troublesome in Milton-Freewater area, Umatilla County, this year. (Every).

APPLE RUST MITE (Aculus schlechtendali) - NEW YORK - Considerable numbers appearing in Niagara County. (N.Y. Wkly. Rpt., July 26).

ORCHARD MITES - NEW YORK - Red species extremely heavy in occasional orchard in Niagara County. Activity of unspecified species declined noticeably in Monroe County due to cool weather. (N.Y. Wkly. Rpt., July 26). RHODE ISLAND - Heavy on unsprayed apple trees in Smithfield, Providence County. (King).

CODLING MOTH (Carpocapsa pomonella) - CONNECTICUT - Larvae found in unsprayed apples in Cheshire and Storrs. (Savos, July 28). NEW YORK - Between broods in Niagara County. (N.Y. Wkly. Rpt., July 26). OHIO - Second-brood adults emerging in cages in southwest section July 20 and in Oakland County July 22. (Carpenter, Austin). MISSOURI - Under unusually good control in most orchards; growers advised to continue protection of apples. (Wkly. Rpt. Fr. Grs.). OKLAHOMA - Larvae moderate in apples in Mayes County. (Okla. Coop. Sur.). COLORADO - Entering apple fruit in Garfield and Delta Counties where third cover spray omitted. (Bulla). UTAH - Caused 1-100 percent infestation in apples in orchards at Tropic, Garfield County, and Wellsville, Cache County. (Knowlton). OREGON - Second-brood adults appearing in traps in Hood River County. (Zwick).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - OHIO - First hatching of second-brood larvae observed July 21 in southwest section. (Wooley, Carpenter). WISCONSIN - Second-generation larvae feeding on apples in Door County. (Wis. Ins. Sur.). MISSOURI - Found occasionally on apples in northwest section. Careful control recommended to prevent possible outbreak in 6 weeks. (Wkly. Rpt. Fr. Grs.).

FALL WEBWORM (Hyphantria cunea) - MISSOURI - Infestation found in one or two apple trees in northwest section. This is unusual in sprayed orchards. (Wkly. Rpt. Fr. Grs.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - OKLAHOMA - Larvae, probably this species, damaging twigs and fruit of peaches checked in Mayes County. (Okla. Coop. Sur.).

RED-HUMPED CATERPILLAR (Schizura concinna) - UTAH - Damaging foliage in apple orchard at Orem, Utah County. (Taylor, Knowlton).

SHOT-HOLE BORER (Scolytus rugulosus) - MARYLAND - Heavily infesting dying peach tree at Langley Park, Prince Georges County. (U. Md., Ent. Dept.).

PEACH TREE BORER (Sanninoidea exitiosa) - OKLAHOMA - Heavy in peach trees checked in Mayes County. (Okla. Coop. Sur.).

PEACH TWIG BORER (Anarsia lineatella) - COLORADO - Second-brood adults being caught in sex attractant traps on Western Slope. As high as 15 per 5 traps collected. (Bulla).

CURCULIOS - NEW YORK - Unspecified species a problem in sour cherries in Monroe County due to improper timing of controls. (N.Y. Wkly. Rpt., July 26).

GREEN JUNE BEETLE (Cotinis nitida) - OKLAHOMA - Continues damage to ripening fruit in Noble, Mayes and Cleveland Counties. (Okla. Coop. Sur.).

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - Emergence continues but peak now past. Continued protection urged near wild or abandoned trees. (MacCollom, July 26). CONNECTICUT - Emergence peaked in most of State during past week of July 31. Protection recommended for next 10-14 days in case secondary peaks occur. (Savos). NEW YORK - Emergence continues heavy in Clinton County with total of 1,917 adults collected on July 22. Apparent peak occurred July 16 when 223 adults were collected. No peak emergence apparent in cages in Monroe County as of July 26. Adults still emerging steadily in Niagara County. (N.Y. Wkly. Rpt.). MICHIGAN - Heavy flights continue in unsprayed orchard in southeast. Sizeable collection made in Benzie County. (Austin). WISCONSIN - High catches of adults in ammonia bait traps continue in Madison area. Total of 35 caught in trap in crab apple tree during period of July 21-27; and 6 caught at another location since last report. Adults increasing rapidly in Door County. (Wis. Ins. Sur.). MINNESOTA - Adults continue active at Rochester, Olmsted County, and La Crescent, Houston County. Protection essential. (Minn. Ins. Rpt.).

APPLE APHIDS - UTAH - Anuraphis rosea (rosy apple aphid) and Eriosoma lanigerum (woolly apple aphid) caused moderate injury in apple orchard at Tropic, Garfield County. (Knowlton). WISCONSIN - A few colonies of E. lanigerum forming on terminal growth of untreated apple trees in Madison area. (Wis. Ins. Sur.). CONNECTICUT - Aphis pomi (apple aphid) largely disappeared; no longer problem. (Savos, July 28).

LEAFHOPPERS - MARYLAND - Causing foliage injury on home apple planting at Prince Frederick, Calvert County. (U. Md., Ent. Dept.).

COCCIDS - FLORIDA - All stages of Aonidiella citrina (yellow scale) and Chrysomphalus aonidum (Florida red scale) damaging leaves of sweet orange in nursery at Bloomfield, Lake County. (Fatic, July 20). All stages of Unaspis citri localized and lightly damaging bark of sweet orange at Arcadia, De Soto County. (Lamb). TEXAS - Coccus hesperidum (brown soft scale) moderate to heavy on grapefruit trees in Cameron County, but not as widespread as in 1964. (Texas Coop. Rpt., Stephens). ARIZONA - Scattered infestations of Icerya purchasi (cottony-cushion scale) appearing on backyard citrus in Casa Grande area, Pinal County. (Ariz. Coop. Sur.).

APHIDS - TEXAS - Heavy and widespread on orange trees in Cameron County. (Texas Coop. Rpt., Stephens).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Moderate to heavy infestations persist in many citrus groves in Yuma County area. Some controls applied. (Ariz. Coop. Sur.).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Scattered populations damaging citrus in Yuma Mesa area, Yuma County. (Ariz. Coop. Sur.).

SPITTLEBUGS - ALABAMA - Clastoptera achatina (pecan spittlebug) causing some damage on pecans in Dale County. (Estes). GEORGIA - Moderate to heavy on pecans in Jasper County (Milner); general over State in untreated pecan orchards (Buttram); and heaviest ever found in State (Osburn). SOUTH CAROLINA - Widespread on pecan in most counties; caused severe nut drop in many areas. Heavily infested orchard of 20 trees in Georgetown County; nymphs and frothy masses present on most nut clusters; some nut drop noted. (Nettles et al., July 27). MARYLAND - Infesting pecan trees at Dameron, St. Marys County. (U. Md., Ent. Dept.).

APHIDS - GEORGIA - Heavy infestations on pecans in south section. (French). UTAH - Chromaphis juglandicola (walnut aphid) still severe on English walnut trees at Payson, Utah County. (Knowlton).

WALNUT HUSK FLY (Rhagoletis suavis) - OREGON - Adults collected in walnut trees in Hood River County July 28. (Goeden).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Heavy nut drop continues locally on pecan trees in Lee County. Infestation varies considerably among different varieties in same orchards. (Bagby).

FALL WEBWORM (Hyphantria cunea) - ALABAMA - Heavy and widespread infestations in coastal areas, especially Mobile, Baldwin and Covington Counties. Webs numerous on pecan, persimmon and other trees. (Wilson, Pike et al.). OKLAHOMA - Continues to damage pecan and other trees. Some larvae have pupated. (Okla. Coop. Sur.).

A SAP BEETLE - TEXAS - Unspecified species damaging figs locally in Bexar County. (Meisch).

A DARKLING BEETLE (Bothrotes fortis) - FLORIDA - Adults localized and severely damaging fruit of tamarind at Stuart, Martin County. (Campbell, July 16).

A WEEVIL (Sitophilus linearis) - FLORIDA - Adults localized and severely damaging fruit of tamarind at Stuart, Martin County. (Campbell, July 16).

BLUEBERRY MAGGOT (Rhagoletis mendax) - NEW JERSEY - Adult emergence continues very light. (Ins.-Dis. Newsltr.).

JAPANESE BEETLE (Popillia japonica) - NEW JERSEY - Damaging blueberry cutting beds in some areas. (Ins.-Dis. Newsltr.).

LEAF ROLLERS - NEW JERSEY - Damaging blueberry cutting beds in some areas. (Ins.-Dis. Newsltr.).

LEAF ROLLER MOTHS (Sparganothis spp.) - NEW JERSEY - Some activity still noted on untreated cranberry bogs. (Ins.-Dis. Newsltr.).

CUTWORMS - UTAH - Stripped foliage from currant bushes on farm at Panquitch, Garfield County. (Knowlton).

A PSYLLID - UTAH - Curled apical growth of black currants at Cove and Lewiston, Cache Connty; Orderville, Kane County; and Tropic, Garfield County. (Knowlton).

GREEN STINK BUG (Acrosternum hilare) - CALIFORNIA - Adults medium on Thompson seedless grapevines in Livermore, Alameda County. (Cal. Coop. Rpt.).

GRAPE BERRY MOTH (Paralobesia viteana) - MISSOURI - No increase in commercial vineyards; regular spray schedule urged. (Wkly. Rpt. Fr. Grs.).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - VERMONT - Troublesome in home gardens. (MacCollom, July 26). DELAWARE - Numerous on tomatoes in areas of Kent and Sussex Counties. (Burbutis, Woodall). MICHIGAN - Second-generation adults active in research plots in Clinton County. (Wells). COLORADO - Adults numerous on potatoes in Weld County. (Urano).

FLEA BEETLES (Epitrix spp.) - MICHIGAN - Feeding injury by second-brood adults of E. cucumeris (potato flea beetle) reported from several fields in central section. (Janes). COLORADO - E. tuberis (tuber flea beetle) populations fairly high in systemic treated potato fields in early areas of Weld County. Systemic treated potatoes in late area near Eaton should be watched carefully. (Urano).

GREAT BASIN WIREWORM (Ctenicera pruinina) - IDAHO - Populations found in tuber zone in cultivated potatoes and native vegetation in Owyhee, Elmore and Canyon Counties. Some tuber damage in new irrigation projects in Canyon County. (Thornton, Homan).

HORNWORMS (Protoparce spp.) - NEW MEXICO - Larvae damaging home tomato plantings in Farmington-Aztec area, San Juan County. (Albert). RHODE ISLAND - P. quinquemaculata (tomato hornworm) attacking tomatoes in Narragansett, Washington County. (Mueller).

STALK BORER (Papaipema nebris) - WISCONSIN - Larvae nearly full grown in southern section. Larvae boring in some potato stalks in gardens in Trempealeau County. (Wis. Ins. Sur.).

TOMATO FRUITWORM (Heliothis zea) - OKLAHOMA - Moderate in tomatoes in Okmulgee County. (Okla. Coop. Sur.). ARKANSAS - No infestations reported to date by okra producers. This insect has been problem in past. (Ark. Ins. Sur.).

Aphids on Potatoes in Maine - Aphid numbers on untreated potato foliage on Aroostook Farm near Presque Isle, Aroostook County, 2.5 times those of last week, and percent of infested plants doubled. This is less than usual rate of increase. Rate of increase also below normal in commercial plantings examined. Aphids averaged 1.3 on 3 leaves per plant; leaves examined from top, middle and bottom of plants. Total of 46 percent of plants infested. Species present were Macrosiphum euphorbiae (potato aphid), Myzus persicae (green peach aphid), Aphis nasturtii (buckthorn aphid) and Acyrthosiphon solani (foxglove aphid). (Shands).

POTATO LEAFHOPPER (Empoasca fabae) - NEW JERSEY - Counts from 10 fields in central section July 30 ranged 14-406 and averaged 192 per 25 sweeps. (Ins.-Dis. Newsltr.). MICHIGAN - Adult populations rather high on potatoes in many Lower Peninsula counties. (Janes, Wells, Newman).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Ranged 0-2 per 100 sweeps in potatoes in Weld County. (Jenkins).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NEW HAMPSHIRE - First-brood adults emerging at Durham. (Conklin, Sutherland). RHODE ISLAND - Adults noted on bean plantings in Exeter, Washington County, and North Smithfield, Providence County. (Mathewson, King, Sorensen). NEW YORK - Heaviest infestation in years in Monroe County. (N.Y. Wkly. Rpt., June 26). UTAH - Damaged many gardens in Salt Lake and Weber Counties. Severely injuring bean foliage in several gardens at Logan, Cache County. (Knowlton). NEW MEXICO - Heavy and damaging beans in Farmington area, San Juan County. (Nielsen, Campbell).

STRIPED FLEA BEETLE (Phyllotreta striolata) - UTAH - Moderately damaging to snap beans at Tropic, Garfield County. (Knowlton).

GREEN CLOVERWORM (Plathypena scabra) - MICHIGAN - Few young larvae reported on beans in Bay County and numbers of adults taken in blacklight traps indicate upward trend. (Thompson, Janes, Newman).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - GEORGIA - Moderate to heavy in seedling southern peas in Hancock County. (Ellis).

LEAF MINERS - ALABAMA - Heavy in 35-acre field of southern table peas with 90 percent of plants affected and 70 percent loss. (White).

SEED-CORN MAGGOT (Hylemya platura) - CALIFORNIA - Larvae medium in bean seeds in Chula Vista, San Diego County. (Cal. Coop. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - NEW YORK - Expected to move to vegetables as hay and forage plantings dry up or are cut. (N.Y. Wkly. Rpt., July 26). DELAWARE - Nymphs continue increase on lima beans in Sussex County areas. (Burbutis, Woodall).

BEAN APHID (Aphis fabae) - MARYLAND - Heavy on planting of lima beans at Pasadena, Anne Arundel County. (U. Md., Ent. Dept.).

CABBAGE APHID (Brevicoryne brassicae) - DELAWARE - Abundant on cabbage in an area of Sussex County. (Burbutis, Woodall). UTAH - Numerous on cauliflower at Panquitch, Garfield County. (Knowlton).

IMPORTED CABBAGEWORM (Pieris rapae) - RHODE ISLAND - Larvae numerous on cabbage in Narragansett, Washington County. (Mueller).

MELONWORM (Diaphania hyalinata) - ALABAMA - Heavy on squash and cucumbers in home garden in Lawrence County. (McQueen).

SQUASH BUG (Anasa tristis) - KANSAS - Heavy damage to squash reported in Riley County. (Knutson, July 23). OKLAHOMA - Moderate to heavy on squash in Noble and Blaine Counties. (Okla. Coop. Sur.). IDAHO - Infesting small squash planting near Parma. Controls applied. (Scott). UTAH - Damaging at Holden, Millard County. (Knowlton).

STRIPED CUCUMBER BEETLE (Acalymma vittatum) - DELAWARE - Present on pumpkin-squash, cantaloups and watermelons in Sussex County areas. (Burbutis, Woodall).

SPINACH LEAF MINER (Pegomya hyoscyami) - WISCONSIN - Larval populations very high in garden beets in southern Dane County. (Wis. Ins. Sur.).

CABBAGE MAGGOT (Hylemya brassicae) - MASSACHUSETTS - Severe in Chinese cabbage field in Springfield area. (Wave).

ASPARAGUS BEETLES (Crioceris spp.) - NEW JERSEY - C. asparagi (asparagus beetle) larvae beginning to increase in south section. (Ins.-Dis. Newsltr.). UTAH - C. asparagi and C. duodecimpunctata (spotted asparagus beetle) injury moderate in northern areas during spring. (Knowlton).

CABBAGE LOOPER (Trichoplusia ni) - NEW JERSEY - Eggs present on under-surface of cole crop leaves during past week. Preventive controls recommended. (Ins.-Dis. Newsltr.). GEORGIA - Light to moderate on vegetables in south section. (French). COLORADO - Eggs and larvae ranged 0-1 per 10 plants in cabbage, lettuce and spinach areas of San Luis Valley. (Jenkins).

WEBWORMS (Loxostege spp.) - COLORADO - L. sticticalis (beet webworm) numbers increasing in many light traps in Weld County. Increased from 3 to 21 at Briggsdale, from 20 to 37 at Greeley, from 301 to 494 at Windsor and from 9 to 602 at Nunn. This could mean a late infestation in beets. (Urano). Adults of L. sticticalis and L. similalis (garden webworm) numerous in cabbage, lettuce and spinach areas near Salida, Chaffee County. (Jenkins).

CUTWORMS - UTAH - Peridroma saucia (variegated cutworm) damaging potato vines at Roosevelt, Duchesne County. (Knowlton, Day). Unspecified species damaged peas, lettuce, carrots and beets on farm at Panquitch, Garfield County. (Knowlton).

OREGON - P. saucia heavy in potato fields in Klamath County (Hanna); heavy populations of 5-10 per leaf attacking turnips and young carrots in Corvallis area, Benton County (Crowell). Agrotis ipsilon (black cutworm) heavy in table beets at Fairview Home farm near Salem, Marion County. (Crowell).

GREEN PEACH APHID (Myzus persicae) - NEW JERSEY - Heavy flight noted throughout State during past week. Controls recommended for peppers and tomatoes. (Ins.-Dis. Newsltr.). OHIO - Very abundant and discoloring potato leaves at Celeryville, Huron County. Det. by J. P. Sleesman and R. H. Davidson. (Rose). UTAH - Moderate on sugar beets at Sevier, Rich County. (Knowlton).

APHIDS - NEW YORK - Continue moderately high on potatoes and heavy on several vegetable crops in Suffolk County. Building up on crucifers in Monroe County. (N.Y. Wkly. Rpt., July 26). RHODE ISLAND - Continue heavy on commercial potatoes in Washington County. (Mathewson).

WHITEFLIES - MARYLAND - Abundant on squash and strawberry plantings in northern Anne Arundel County. (U. Md., Ent. Dept.).

THRIPS - NEW YORK - Building up on cabbage leaves and causing injury in a cucumber field in Monroe County. (N.Y. Wkly. Rpt., July 26).

EUROPEAN EARWIG (Forficula auricularia) - IDAHO - Largest population in years found in both gardens and fields in Ada and Elmore Counties. (Hilfiker, Edwards, Portman).

GRASSHOPPERS - NEW MEXICO - Abundant in some gardens and along fence rows in northern San Juan County. (Albert).

CRICKETS - CALIFORNIA - Gryllus sp. migrating from harvested grain fields and causing serious damage to 30 acres of tomato transplants in Chula Vista, San Diego County. (Cal. Coop. Rpt.). OHIO - Undetermined species serious in strawberry patch in Pickaway County. (Hamrick).

SPIDER MITES (Tetranychus spp.) - OKLAHOMA - Moderate to heavy in home gardens, especially on tomatoes, in Cleveland, Kingfisher, Payne, Blaine, Okmulgee and Mayes County. (Okla. Coop. Sur.). MARYLAND - Several moderate to heavy infestations on lima beans, cantaloups and watermelons on lower Eastern Shore. (U. Md., Ent. Dept.). NEW JERSEY - T. telarius (two-spotted spider mite) appearing on tomato foliage and again building up on strawberries. (Ins.-Dis. Newsltr.).

A GARDEN CENTIPEDE - UTAH - Killing beans, squash, Swiss chard, table beets, radishes and cucumbers in home garden at Holden, Millard County, and damaging in neighboring gardens. (Knowlton).

TOBACCO INSECTS

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Populations continue to build up on tobacco in southern sections. Many fields will require treatment. (U. Md., Ent. Dept.). VIRGINIA - Populations curtailed by recent rains, but general buildup should be expected. (Isakson).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults averaged over 10 per plant on several acres of tobacco near Bowie, Prince Georges County. (U. Md., Ent. Dept.).

FLEA BEETLES - SOUTH CAROLINA - Causing concern to many growers. (Nettles et al., July 27).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Several light infestations noted on tobacco in northern Anne Arundel County. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Light on tobacco checked in Anne Arundel and Prince Georges Counties. (U. Md., Ent. Dept.). SOUTH CAROLINA - Few heavy infestations noted on tobacco in Georgetown County. (Nettles et al., July 27).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - VIRGINIA - Adult populations very high in cotton in Greensville County. (Isakson, Flippen). NORTH CAROLINA - Punctured squares range 76-100 (average 86) percent in 6 untreated fields and 0-18 (average 8) in 6 treated fields in Robeson County. (Mount). SOUTH CAROLINA - Increasing in Marlboro County due to irregular spraying caused by wet condition of fields. (Nettles et al., July 27). Migration now makes effective insecticide applications important in Florence area. Adults range 0-5 per 100 squares in treated plots and 0-24 per 100 squares in untreated plots in area. Larval infestations range 0.4-5.5 percent in treated plots and 22-100 percent in untreated plots. (Taft et al., July 28). Much more the most important problem on cotton than for past several years. Marked increases in infestation indicate migration underway; began in Coastal Plain area July 24 and should be considerably heavier than usual. Infestation averaged 10 percent in treated fields and 51 percent in untreated fields. Migration expected to spread westward and be well underway in Piedmont area by August 1. As infestation is heavier in Piedmont than in 1964, migration and damage expected to be much more significant than last year. (Cott. Ltr., July 23). TENNESSEE - Considered serious threat to cotton crop in regularly infested counties. Heaviest in southeastern portion of growing area. Fields not previously found infested now have weevils present, probably due to some local migration. Punctured squares averaged 95 percent in one Fayette County field. Punctured squares ranged 1-95 percent in infested fields in southern counties; averaged 19 percent compared with 5 percent at same time in 1964. Averaged 11 percent previous week. Conditions ideal for buildup in those areas in southern counties that received some rain recently. Migration expected to increase in these areas as further "hatch out" expected and larval mortality very low at this time. Control becoming more difficult due to rank fields. Dry weather giving good control of weevils in southwestern portion of cotton-growing area. (Locke).

GEORGIA - Moderate to heavy in southern area (French); punctured squares averaged 26 and 32 percent, respectively, in 2 fields in Spalding County (Beckham). ALABAMA - Infestations continue high. Reports indicate severe losses to cotton crops on farms where poor control measures used, especially on isolated farms in Monroe, Dallas and other southern counties. Square damage not too excessive where control practices good. (McQueen). MISSISSIPPI - Infestation increased in some fields in delta counties compared with previous week. Although infestation still low in some fields, local movement indicated and all fields need close checking. (Pfrimmer et al., July 29). LOUISIANA - Infestation ranged 0-26 (average 6) percent in 96 fields checked in Madison Parish. (Cleveland et al., July 29). OKLAHOMA - Percent punctured squares by county as follows: Tillman 8-11, Jackson 17, Comanche 13, Marshall 2, Bryan 14, Jefferson 1, Choctaw 20, Okmulgee 20-25, Beckham 2; number of punctured squares light in Garvin and Grady Counties. (Okla. Coop. Sur.). TEXAS - Infestations remain about the same in McLennan and Falls Counties as reported in CEIR 15(31):865. Damaging numbers found in 12 of 23 treated and 5 of 9 untreated fields inspected. Infestation averaged 10 percent punctured squares in treated fields and 15 percent in untreated fields. Overall average 10.6 percent. (Cowan et al.). Activity increased in rolling plains area and varied light to heavy. "Hot spots" still present in Rio Grande Valley with most damage along the river. Second-generation weevils appearing in Blacklands area and expected to continue for next few days. Heavy infestations reported in Jackson-Wharton County area; activity light in Kinney, Presidio and Brazos Counties. Surveys indicated 137 fields infested in control zone in high plains area. Infestation approached 60 percent square damage in occasional fields in Dickens County. (Texas Coop. Rpt.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Increasing in Florence area, with further increases expected. All control applications should contain material effective against these pests. Larval infestaions ranged 0-16.3 percent in treated plots and 2-12 percent in untreated plots. Adults taken in light trap in Florence area included 81 H. zea (bollworm) and 9 H. virescens (tobacco budworm). (Taft et al., July 28). Infestations somewhat lighter than usual; however, buildups and steadily mounting pressure expected for remainder of season. (Cott. Ltr., July 23). TENNESSEE - Infestations increasing over cotton-growing area but damage still light. Infestations somewhat heavier where control for boll weevil (Anthonomus grandis) practiced earlier. (Locke). GEORGIA - Light to heavy in southern portion of State. (French). Larval infestations light in cotton in Spalding County, but moth catches in light traps considerably increased. (Beckham). ALABAMA - Considerable increase in moth flight noted in cotton. Eggs range light to heavy on more succulent cotton. Few extreme larval infestations occurred in some central and southern counties. Numerous H. virescens adults observed depositing eggs on young cotton in Lee County. (McQueen). MISSISSIPPI - Moth flight increased somewhat at Stoneville, Washington County. Eggs found on dried blossoms and square bracts where none found in terminals. Examinations should be made down in plant in order to detect possible infestations. Infestation generally light in delta counites. (Pfrimmer et al., July 29). LOUISIANA - Infestations found in 77 of 96 fields checked in Madison Parish; ranged 1-10 (average 2.3) percent. Eggs ranged 1-11 (average 3) and larvae 1-7 (average 2) per 100 terminals in 52 fields. Total of 236 H. zea and 15 H. virescens taken in light trap. (Cleveland et al., July 29).

ARKANSAS - Moth flights continue low at Kelso, Desha County. No H. virescens moths collected. Larvae collected July 21-28 in Lincoln and Desha Counties all determined as H. zea. No square damage found in 93 fields inspected; percent damage less than 1 percent in 96 fields, ranged 1-2 in 327 fields, 2.1-4 in 425 fields, 4.1-6 in 288 fields and averaged above 6 percent in 92 fields. (Ark. Ins. Sur.). MISSOURI - Larvae range 1-10 and eggs 1-12 per 100 terminals in 15 percent of fields checked, week ending July 28. First treatments of season made to 20-acre field. (Jones). OKLAHOMA - Infestations ranged 3-12 percent in cotton in Tillman, Comanche, Jackson, Bryan, Jefferson and Marshall Counties. Infestations reported as light in Beckham and Garvin Counties. (Okla. Coop. Sur.). TEXAS - Egg deposition decreased in McLennan and Falls Counties. In 24 treated fields, eggs ranged 0-21.5 (average 2.7) and larvae 0.2-22.6 (average 6.2) per 100 terminals. In 10 untreated fields, eggs ranged 0-6 (average 1.5) and larvae ranged 1.5-20 (average 7.9) per 100 terminals. Square injury ranged 0-22.5 (average 7.7) percent in 23 treated fields and 0-30.4 (average 11.2) percent in 9 untreated fields. Boll injury averaged 8.9 (range 0.1-33.2) percent in 24 treated fields and averaged 19.1 (range 6.8-34.9) percent in 7 untreated fields. Of 877 larvae determined, 500 (57 percent) H. virescens. (Cowan et al.). Infestations generally light in rolling plains area but heavy in parts of Knox, Haskell, Concho and Jones Counties. Damaging numbers present in scattered fields of lush cotton in Rio Grande Valley. Activity generally decreased in Blacklands area but increased in fields showing good growth. Heavy infestations observed in Wharton County and light to moderate widespread infestations reported from Robertson, Burelson, Brazos and Anderson Counties. Activity remains light and scattered in trans-Pecos area; varied light to heavy. Light infestations reported in all south plains area counties; increase in number of eggs and larvae noted in number of areas. (Texas Coop. Rpt.). NEW MEXICO - Treatments for H. zea beginning in some cotton in Artesia area, Eddy County. (Campbell). ARIZONA - H. zea larvae increasing on cotton in most areas, but remain light generally with a few heavier populations noted. Egg deposition appears on increase. (Ariz. Coop. Sur.). CALIFORNIA - Found on cotton in all areas of Fresno County, but not yet in economic numbers. (Stromberg, July 21). Occasional larvae found on cotton in Kern County. Heavy moth flights noted July 22-23 in Shafter and Wheeler Ridge areas. Growers should be alert for outbreaks. (Leigh, July 25). Moth activity and egg laying continue in Imperial County. Larvae found in many fields, but numbers not of economic concern in most instances; however, few infestations have required treatments during past few days. (Campbell, July 22).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Evident in most Kern County cotton; generally not severe. (Leigh, July 21).

LOOPERS - SOUTH CAROLINA - No general buildup reported. (Cott. Ltr., July 23). GEORGIA - Light infestations reported in southern area. (French). ALABAMA - Trichoplusia ni (cabbage looper) larvae light on cotton in several counties including Dallas, Lee and Jackson. (Pitts, Wilder, Kennamer). MISSISSIPPI - T. ni observed ragging leaves of few cotton plants in delta counties. (Pfrimmer et al., July 29). ARIZONA - T. ni light in cotton in Yuma, Pinal and Maricopa Counties. No increase apparent. (Ariz. Coop. Sur.). CALIFORNIA - T. ni infestations found in Helm, San Joaquin and Tranquillity areas of Fresno County, but not sufficient to require controls. (Stromberg, July 21).

PLANT BUGS - TENNESSEE - Present in large number of fields but considered below control levels at present. Some blasting of small squares evident in infested fields. (Locke). LOUISIANA - Fleahopper infestations ranged 1-6 percent in 14 of 67 fields checked in Madison Parish. Lygus lineolaris (tarnished plant bug) infested 22 of 67 fields checked in same area; ranged 1-3 per 100 sweeps. (Cleveland et al., July 29). MISSOURI - Adults and nymphs of several species ranged 1-20 per 100 plants in 88 percent of fields checked week ending July 28. (Jones). TEXAS - Psallus seriatus (cotton fleahopper) averaged 1.1 per 100 terminals in 34 fields checked in McLennan and Falls Counties; damaging 2 fields of very late cotton. (Cowan et al.). NEW MEXICO - Spanogonicus albofasciatus caused light to moderate damage to cotton in Lovington-Hobbs area, Lea County. (Campbell). ARIZONA - Moderate to heavy populations of P. seriatus damaging squares in Yuma County; light populations noted in Maricopa and Pinal Counties. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEVADA - Varied 30-60 per 100 sweeps on cotton in Moapa Valley, Clark County, and 20-60 per 100 sweeps in Pahrump Valley, Nye County. (Cooney). NEW MEXICO - Light to moderate damage noted on cotton in Lovington-Hobbs area, Lea County. (Campbell). CALIFORNIA - Common throughout Fresno County; counts erratic depending upon treatments and surrounding crops. High proportion of counts in most areas nymphs. (Stromberg, July 21). Migrations continue from alfalfa, safflower and pasture areas in Kern, Fresno and Tulare Counties; nymphs increased in Shafter area and in Tulare and Fresno Counties; counts low in western Fresno County. (Leigh, July 21). General populations low in Imperial County; ranged 1-4 per 50 sweeps. Few fields treated specifically for lygus bugs, but lygus bugs and leafhoppers present. (Campbell, July 22).

LEAFHOPPERS - CALIFORNIA - Empoasca fabae (potato leafhopper) severe in cotton in eastern Fresno, Tulare and Kern Counties. Other species evident throughout valley. (Leigh, July 21). Controls for leafhoppers continue in some fields in Imperial County. Populations persisting at high levels in untreated fields resulted in considerable yellowing of leaves and marginal discoloration. (Campbell, July 22).

BEAN THRIPS (Hercothrips fasciatus) - CALIFORNIA - Evident in some fields of cotton in northeast Fresno County. Growers should be alert for this pest. Lower leaves should be examined for bronzing of lower leaf surface and black specks of excrement. Heavy populations cause defoliation. (Leigh. July 21).

SPIDER MITES - NORTH CAROLINA - Infesting field of cotton in Nash County; light to moderate throughout entire 8-acre field. (Robertson). SOUTH CAROLINA - Infestations increased progressively over past 3 years in Lancaster County where most seed treated for long period of years. (Cannon, July 27). Tetranychus telarius (two-spotted spider mite) very abundant on cotton in Laurens County; wide variation in effectiveness being obtained with various controls. (Outz, July 27). Spotty infestations observed in some cotton in Florence area. (Taft et al., July 28). Populations in Piedmont area tend to build up in localized areas. (Cott. Ltr., July 23). TENNESSEE - Some populations causing considerable damage in northwest portion of cotton-growing area, with infestations of lesser degree noted over area. More fields being found infested; conditions ideal for

increases and considerable damage expected where controls not applied. (Locke). ALABAMA - Considerable increase in activity noted in several northern counties. (McQueen). Several severe outbreaks noted in Colbert County. (Hollaway). MISSISSIPPI - Continue problem in many fields in delta counties. Pressure may decrease in areas having rain, but in dry areas problem may continue. (Pfrimmer et al., July 29). MISSOURI - Infestations found in 40 percent of fields checked week ending July 28. Treatments applied to 212 acres in 20 fields. (Jones). CALIFORNIA - General in untreated fields in Fresno County; some fields treated for second time. Increased sharply in few fields. (Stromberg, July 21). Locally severe in entire cotton area of San Joaquin Valley in Kern County. (Leigh, July 21).

HAWAIIAN INSECT NOTES

The following notes on Hawaii insect conditions were presented at the meeting of the Hawaiian Entomological Society held in July 1965.

A GRASSHOPPER (Schistocerca vaga Scudder) female was collected at the Barbers Point Naval Air Station by J. McCormick on July 2. This is the first record of this insect found outside of Sand Island. State entomologists are conducting surveys of the area; results to date are negative. (F. A. Bianchi, J. Kajiwara).

A DRYWOOD TERMITE (Incisitermes immigrans (Snyder)) caused considerable damage to a bathroom floor in Honolulu; this is a rare case of infestation in a home of this lowland tree species. (J. Kajiwara).

AN ARMORED SCALE (Mycetaspis personata (Comstock)) was recently determined by Dr. D. J. Williams of the U.S. Department of Agriculture as the species which was intercepted on ti (Cordyline terminalis) leaf originating from Hawaii by C. D. Nigro on February 9, 1961. This constitutes a new State record. The species was originally recorded from Cuba; it also occurs in the West Indies, Mexico, British Guiana, Brazil, England, Puerto Rico, Jamaica and Panama. The hosts are numerous, including various species of Tillandsia, Sabal, Anacardium, Jasminum, Areca, Citrus, Ficus, Musa and Mangifera. (E. S. Shiroma).

WEATHER OF THE WEEK ENDING AUGUST 2

HIGHLIGHTS: (1) Showers Northeast but drought continues. (2) Other showers widespread, mostly light. (3) Heat wave, Pacific Northwest. (4) Cooler most other areas, record cold North Central.

TEMPERATURE: The heat of midsummer was confined mainly to the Pacific Northwest where large areas averaged more than 6° warmer than normal. Temperatures above 100° in western Washington and Oregon late in the week were near or at record levels; Portland, Oregon, reported 107°. In most other areas, temperatures were substantially cooler than during the previous week with averages from 4° to 7° below normal. The coolest weather east of the Rockies occurred during the last 4 days of July when successive surges of cold air from Canada reduced temperatures to very low levels in the North. Record daily lows occurred in the Great Lakes region where Pellston, Michigan, reported 33°. A late July cold front brought relief from prolonged humidity and high temperatures in the lower Great Plains and by Sunday the somewhat cooler and drier air reached the gulf coast.

PRECIPITATION: Showers affected most of the Nation last week but were generally light west of the Rockies, in the northern Great Plains, and in New England. Moderate to heavy rains fell in the southern Rockies, along the northern gulf coast, and over much of the Southeast. Very beneficial rains fell as far northward as Maryland and Delaware and also in parts of Pennsylvania. Other areas in the Northeast received only light amounts. There was some local flooding in North Carolina. The locally heavy thundershowers characteristic of summer continued, especially from the Rockies eastward. In most of the Northeast, the long-term drought continues. (Summary supplied by U.S. Weather Bureau).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

LARCH SAWFLY (Pristiphora erichsonii) - NEW HAMPSHIRE - Larvae defoliating European larch plantation at Gilmanton. Forming cocoons at Durham. (Conklin). RHODE ISLAND - Defoliated 4-acre plot in Bradford, Washington County; pupae recovered at rate of 25 per square foot of soil. (Veilleux). MINNESOTA - Reported in Two Harbors-Clover Valley area. (Minn. Ins. Rpt.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - FLORIDA - Larvae severely damaging leaves of slash pine at Waldo, Alachua County. (Donaldson).

SPRUCE NEEDLE MINER (Taniva albolineana) - MINNESOTA - Noted in plantation spruce near Aurora; pupae noted in St. Paul area. (Minn. Ins. Rpt.).

SPRUCE BUDWORM (Choristoneura fumiferana) - MICHIGAN - Flight very heavy at West Branch, Ogemaw County, evenings of July 22 and 23; estimated 6,000 taken before blacklight trap became plugged and machine stalled. Number represented only small portion of adults flying in vicinity. (Newman, Frosh).

JACK-PINE BUDWORM (Choristoneura pinus) - MINNESOTA - Mass flight occurred at light trap at Itaska State Park July 22. (Minn. Ins. Rpt.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - OKLAHOMA - Heavy on young ornamental pines in MayesCounty. (Okla. Coop. Sur.). VIRGINIA - Infesting pine in Boones Mill, Franklin County. (Isakson, Tucker, July 20).

PINE TUSSOCK MOTH (Dasychira plagiata) - WISCONSIN - Egg laying underway in northwestern areas; no hatching to July 29. (Wis. Ins. Sur.).

AN OLETHREUTID MOTH (Eucosma gloriola) - NEW YORK - Serious infestation damaged 27 percent of leaders on 500 Scotch pine Christmas trees examined at Andover July 19. Approximately 50 percent of larvae completed feeding on white, Scotch, Austrian, red, jack, western white and western yellow pines in Hough Memorial Forest at New Bremen July 22. (N.Y. Wkly. Rpt.).

PINE SPITTLEBUG (Aphrophora parallela) - MINNESOTA - Moderate near Grand Rapids on young white pine. (Minn. Ins. Rpt.).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - WISCONSIN - Occurred as far north as Wood County; nearly all dispersed in Dane County. (Wis. Ins. Sur.). NEW JERSEY - Crawlers active; controls recommended. (Ins.-Dis. Newsltr.). VIRGINIA - Infested pine in Bedford County. (Isakson, Boone).

PINE TORTOISE SCALE (Toumeyella numismaticum) - FLORIDA - Scattered and severely damaging pine at Tampa, Hillsborough County. (Hale). OHIO - Light on 300 Scotch pines in Cuyahoga County; sooty mold present. (Wells, Walker).

WHITE-PINE WEEVIL (Pissodes strobi) - MINNESOTA - Infestation noticeable near Barnum. (Minn. Ins. Rpt.).

GRASSHOPPERS - WISCONSIN - High populations noted in roadside grasses adjacent to pine plantation in Dunn County. Dispersal into plantation possible if dry weather continues. (Wis. Ins. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OREGON - Damaging and disfiguring foliage of elms in Pendleton, Umatilla County. (Larson). UTAH - Damaged elms at Kanab, Kane County; mostly pupae and newly emerged adults. (Knowlton). OKLAHOMA - Moderate to heavy on elms in southwest, south central, west central, central, north central and northeast areas. (Okla. Coop. Sur.). KANSAS - Second generation pupating over much of State. Defoliation severe on Siberian and hybrid elms. (Thompson, July 23). NEBRASKA - Heavy feeding damage noted in Nebraska City, Otoe County. (Roselle, Rhine). MISSOURI - Pupating in Scotland County. (Peters, Craig, July 26).

COTTONWOOD LEAF BEETLES (Chrysomela scripta complex) - NORTH CAROLINA - Damaging willows locally in Lenoir and Craven Counties. (Jackson, Mount). WYOMING - Adults and larvae continue damaging cottonwood trees at Worland, Washakie County. (Marks).

LOCUST LEAF MINER (Xenochalepus dorsalis) - OHIO - Causing widespread damage to black locust foliage in Holmes and Coshocton Counties. Many trees with nearly all leaves damaged. (Rose). MARYLAND - Moderate to very heavy on black locusts in all sections. (U. Md., Ent. Dept.). ALABAMA - Nearly full-grown larvae heavy on black locusts throughout northern area; lesser infestations as far south as Lee County. (McQueen).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - TENNESSEE - Large number of adults noted in several eastern counties. (Mullett).

FALL WEBWORM (Hyphantria cunea) - NEVADA - Larvae medium to heavy on western chokecherry in Shell Creek Range, White Pine County. (Bechtel, Martinelli). MISSOURI - No new webs observed in Boone County July 26-29; egg laying apparently complete. Webs evident in northern third of State. (Houser, July 30). WISCONSIN - Webs appearing on mulberry and elms in Rock and Dane Counties July 21 and 28; second instars noted. (Wis. Ins. Sur.). OHIO - Hatching at Wooster, Wayne County. (Treece). MARYLAND - Tents appearing on several kinds of deciduous trees along roadsides statewide. (U. Md., Ent. Dept.). NEW YORK - Actively feeding and webbing terminals of elm and other trees for past week. (N.Y. Wkly. Rpt., July 26). RHODE ISLAND - Nests appearing in Warwick and Hopkinton, Washington County. (Veilleux, Sorensen, Mathewson).

MIMOSA WEBWORM (Homadaula albizziae) - NEBRASKA - Heavy in Lancaster County; some trees completely defoliated in Lincoln. (Roselle, Rhine). MISSOURI - Webs appearing on nearly all mimosa trees in southeast district. (Enns). MARYLAND - Heavy on mimosa trees in numerous locations over State. (U. Md., Ent. Dept.). NORTH CAROLINA - Browned several trees on campus of State University. (Whitfield).

GYPSY MOTH (Porthetria dispar) - VERMONT - First adults and egg masses observed in Bridport, Addison County. (MacCollom, July 19). NEW YORK - All stages found in Nissequogue area, Suffolk County, July 9. (N.Y. Wkly. Rpt.). MICHIGAN - Trapping negative in State. (Ring).

WESTERN OAK LOOPER (Lambdina fiscellaria somniaria) - OREGON - Larvae about 50 percent grown; apparently smaller numbers than in 1964 attacking oaks in Polk County. (Pearson).

A GALL MIDGE (Cecidomyia verrucicola) - OHIO - Severe on linden tree at Wellington, Lorain County. (Wells, Walker). Cecidomyia spp. causing galls on pin oak at Berea, Cuyahoga County. Other reports indicate situation general on oaks. (Rings).

BIRCH LEAF MINER (Fenusa pusilla) - MICHIGAN - Second-generation adults ovipositing on new growth of birch in Oakland County. (Wallner).

EUROPEAN ELM SCALE (Gossyparia spuria) - MARYLAND - Heavy on several American elms at Hagerstown, Washington County. (U. Md., Ent. Dept.). MINNESOTA - Second instars feeding in Minneapolis-St. Paul area. (Minn. Ins. Rpt.). UTAH - Serious on some trees at Escalente, Garfield County. (Knowlton).

AN ERIOPHYID MITE (Aceria fraxinivorus) - NEW JERSEY - Galls appearing on ash flowers. (Ins.-Dis. Newsltr.).

BAGWORM (Thyridopteryx ephemeraeformis) - NEBRASKA - Moderate in southeastern areas. (Rhine). KANSAS - Damage to cedars heavy in Riley and Johnson Counties. All sizes of bags present. (Knutson, July 23). OKLAHOMA - Moderate to heavy on evergreens in northeast, north central, east central, west central and south central areas. Moderate on maple tree in Adair County. (Okla. Coop. Sur.). ALABAMA - Damage to ornamental plantings continues major problem to many home-owners; numerous in Randolph County. (Wakefield, Barwood et al.).

BAGWORMS - GEORGIA - Common on juniper and Arizona cypress at Griffin. (Tippins). ILLINOIS - Evident on evergreens; controls recommended. (Ins. Sur. Bul.).

VARIEGATED CUTWORM (Peridroma saucia) - CALIFORNIA - Medium on Ace lily plantings; damaging leaves and flowers in Crescent City, Del Norte County. Medium on mint and petunia plants locally in Yreka, Siskiyou County. (Cal. Coop. Rpt.). MARYLAND - Injured petunias and scarlet sage in garden at University Park, Prince Georges County. (U. Md., Ent. Dept.).

OMNIVOROUS LOOPER (Sabulodes caberata) - CALIFORNIA - Causing light damage to holly nursery stock in San Francisco, San Francisco County, and causing unsightly leaves on horsechestnut and avocado trees in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

JAPANESE BEETLE (Popillia japonica) - MASSACHUSETTS - Adults feeding on many ornamentals and weeds in Greenfield area after virtual 3-week absence. (Wave). SOUTH CAROLINA - Damaged roses in Dillon County. (Nettles et al., July 27).

WEEVILS - DELAWARE - Brachyrhinus sulcatus (black vine weevil) adults feeding on orchids in New Castle County home. (MacCreary). MARYLAND - Pseudocneorhinus bifasciatus (a Japanese weevil) adults injuring azaleas locally in Silver Spring, Montgomery County. (U. Md., Ent. Dept.). MICHIGAN - B. sulcatus adults heavy in Macomb County nursery; common on Lower Peninsula nurseries. (Brozovich, Wallner). TENNESSEE - Odontopus calceatus (a leaf-mining weevil) heavy on yellow-poplar in Anderson County; light in Knox, Union and Campbell Counties. Cyrtepistomus castaneus (Asiatic oak weevil) continues heavy across State. (Tenn. Coop. Rpt.). UTAH - Apion longirostre (hollyhock weevil) moderate at Lehi and American Fork, Utah County. (Knowlton). CALIFORNIA - B. meridionalis medium on privet in Fresno, Fresno County. (Cal. Coop. Rpt.).

DOGWOOD BORER (Thamnosphecia scitula) - ALABAMA - Causing death of numerous ornamental dogwoods throughout State; heavy infestations during past 12-24 months. (McQueen).

RED-HEADED ASH BORER (Neoclytus acuminatus) - VIRGINIA - Adults found on dogwood in Westmoreland County. (Isakson).

A FALSE POWDER-POST BEETLE (Amphicerus cornutus) - NEVADA - Light to heavy on mulberry and rose in Las Vegas, Clark County. (Zoller).

APHIDS - FLORIDA - Adults of Myzocallis kahawaluokalani (crapemyrtle aphid) localized and moderately damaging leaves of crapemyrtle in nursery at Eustis, Lake County. (Bentley, July 20). Aphis spiraecola (spirea aphid) adults general and causing moderate to severe damage to leaves of Gynura aurantiaca in nursery at Eau Gallie, Brevard County. (Levan, July 23). This is a new host record for Florida Division of Plant Industry. (Fla. Coop. Sur.). GEORGIA - Unspecified species feeding on new growth of holly in Athens area. (Smith). VERMONT - Prociphilus tessellatus (woolly alder aphid) infestations on soft maples continue in most areas. (MacCollom, July 26). WISCONSIN - Large species appearing in urban areas of Outagamie County. (Wis. Ins. Sur.). MINNESOTA - Large species heavy on Niobe willow in St. Paul area; controls recommended. (Minn. Ins. Rpt.). MISSOURI - Unspecified species building up on tuliptrees and hard maples in Springfield, Greene County. (Ashley). UTAH - Macrosiphum eoessigi heavy on hollyhocks at Junction, Piute County, and Tropic, Garfield County. Very small species heavy on elm trees at Kanab, Kane County. Periphyllus lyropictus (Norway maple aphid) continues infesting hundreds of trees in Cache, Weber, Salt Lake and Utah Counties. (Knowlton).

EUONYMUS SCALE (Unaspis euonymi) - CONNECTICUT - Crawlers appearing; controls urged. (Savos). NEW JERSEY - Crawlers expected soon; controls recommended. (Ins. Dis. Newsltr.). NORTH CAROLINA - Infested euonymus locally in Chatham County. (Robertson).

COCCIDS - FLORIDA - Morganella cueroensis found on Decumaria barbara at Crescent City, Putnam County (Graham, May 6); this is a new host record for Florida Division of Plant Industry. (Fla. Coop. Sur.). Diaspis boisduvalii adults taken on leaves of orchid in nursery at Orlando, Orange County, (Crews); moderately damaged leaves of Chinese fan palm in nursery at St. Petersburg, Pinellas County, (Baker, Bingaman, July 6). Velataspis dentata light to moderate on leaves of redbud at Titusville, Brevard County. (Levan, July 20). Aspidiotus lataniae localized and severely damaging stem on Ilex opaca and Phenacaspis cockerelli (oleander scale) caused moderate damage to leaves of boxwood in nursery at St. Petersburg. (Bingaman, Baker, July 6). GEORGIA - Unspecified scale insects moderate on holly in Coweta County. (Bruce, Hamilton). MARYLAND - Pulvinaria sp. heavy on leaves of red maple at University Park and Pulvinaria acericola collected June 23 on dogwood at Beltsville, Prince Georges County. Det. by D. J. Williams. This is a new State record. (U. Md., Ent. Dept.). CONNECTICUT - Mealybugs noted on taxus at Trumbull and Eriococcus azaleae (azalea bark scale) noted at North Haven. (Johnson). WISCONSIN - Lepidosaphes ulmi (oystershell scale) hatching nearly complete in Dane County. (Wis. Ins. Sur.).

STINK BUGS - OREGON - Adults and nymphs attacking Oregon-grape in many home gardens in Jackson County. (Berry).

LACE BUGS - OKLAHOMA - Heavy on pyracantha in Stillwater area, Payne County. (Okla. Coop. Sur.).

EASTERN LUBBER GRASSHOPPER (Romalea microptera) - GEORGIA - Infesting yards in Griffin and feeding on flowers. (Beckham).

PEA LEAF MINER (Liriomyza bryoniae (Kalt.)*) - CALIFORNIA - Causing heavy damage to petunia foliage locally in La Jolla, San Diego County. (Cal. Coop. Rpt.).

A LEAF MINER FLY (Melanagromyza viridis) - CALIFORNIA - Medium on zinnia leaves in Santa Paula, Ventura County. (Cal. Coop. Rpt.).

SPIDER MITES - NEW YORK - Large numbers of Eotetranychus multidigituli eggs noted on honeylocust foliage. Immediate control necessary to avoid severe yellowing. (N.Y. Wkly. Rpt., July 26). DELAWARE - Oligonychus ilicis (southern red mite) present on cotoneaster locally in New Castle County. (Mellott, Connell). OKLAHOMA - Moderate to heavy on ornamentals in Kingfisher, Cleveland, Okmulgee and Garvin Counties. (Okla. Coop. Sur.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MINNESOTA - Light trap collections totaled 101,000 week ending July 24. Number of Aedes vexans (80,500) exceeded total catch of Aedes spp. females for all of 1964. Included in total were 1,400 Culex tarsalis, 1,300 Culiseta inornata and 1,100 Mansonia perturbans. In 40 evening bite collections, 675 females taken; A. vexans predominant. In 661 daytime collections, A vexans predominant, with 550 A. stimulans, 300 Culex trivittatus, 300 A. cinereus, 200 A. excrucians and 200 A. fitchii also taken; Mansonia perturbans adults appeared to be aged and declining in numbers. Larval samples mostly Culex spp. and Culiseta spp. (Minn. Ins. Rpt.). NORTH DAKOTA - Mosquitoes continue troublesome to humans and livestock in most areas. (Frye, Thomasson). WYOMING - Mosquitoes annoying to man and animals throughout State. (Marks). OREGON - Mosquitoes very heavy in Klamath Basin, Klamath County, particularly at upper Klamath Lake, Keno and Langell Valley areas. Mostly Aedes nigromaculis, A. dorsalis, A. vexans, Anopheles freeborni and Culex tarsalis. (Hanna). UTAH - Extremely troublesome in Allen Canyon and very numerous at Randolph and Monte Cristo in Rich County. Very abundant at Boulder, moderately numerous in Panquitch-Hatch fields in Garfield County and meadow areas of Piute County. Troublesome about alfalfa

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* Spencer, K. A. 1963. Roy. Ent. Soc. London Trans. 115:359.

fields in Abraham-Delta area of Millard County. More frequent than normal spring and summer rains resulted in above normal mosquito populations in many parts of State. Problems difficult even in organized control districts. (Knowlton). COLORADO - Mosquitoes very heavy in many sections of State following general rains. Number of equine encephalitis cases reported in horses; controls urged. (Colo. Ins. Det. Comm.). NEW MEXICO - Problem in communities of Farmington, Aztec, Bloomfield and Laplata, San Juan County, following recent rains. (Heninger). KANSAS - Larval populations heavy southwest of Garden City, Finney County; ranged 20-50 per dip in roadside ditches. Aedes vexans principal adult species causing annoyance; lesser numbers of Culex pipiens, Psorophora ciliata and Psorophora spp. present. Virtually no larval development since abnormal rainfall has ceased, except in artificial containers. (Knutson, July 23). OHIO - Aedes vexans, Culex pipiens and C. restuans most common species in past few weeks at Toledo, Lucas County; C. pipiens most numerous. (Brockway). MARYLAND - Aedes sollicitans (salt-marsh mosquito) numerous and annoying in sections of southern Worcester County. (U. Md., Ent. Dept.).

FACE FLY (Musca autumnalis) - MISSOURI - Larvae noted in Clark, Schuyler, Adair, Putnam, Worth and Gentry Counties. Although probably present since at least 1960, this is the first report for Clark, Putnam, Worth and Gentry Counties. Adults on herds checked ranged 0-11 per face and averaged 2-5 per face. (Houser, July 26-29). WISCONSIN - Serious problem in parts of Chippewa County; wild parsnip nearly gone to seed in southern areas. (Wis. Ins. Sur.). MINNESOTA - No reports of activity. (Minn. Ins. Rpt.). SOUTH DAKOTA - Continues annoying to Black Angus and other stock in Charles Mix County; 25 per head on adult animals not unusual. (Berndt). MARYLAND - Averaged 5 per head on 56 Holstein cows at Woodsboro, Frederick County. (U. Md., Ent. Dept.).

HOUSE FLY (Musca domestica) - UTAH - Rapidly building up in Kane and Garfield County communities and about farms. Numerous around restaurant drive-ins at Kanab, Kane County; Panguitch and Tropic, Garfield County; and Logan, Cache County. (Knowlton). WISCONSIN - Activity increasing. (Wis. Ins. Sur.). SOUTH CAROLINA - Unusually numerous in Chester County. (Nettles et al., July 27).

HORN FLY (Haematobia irritans) - OKLAHOMA - Averaged 600 per head on cows in Pushmataha County; heavy in Noble, Murray and Garvin Counties; moderate in Mayes, Haskell and Stephens Counties. (Okla. Coop. Sur.). UTAH - Annoying cattle in Pickleville-Laketown area, Rich County, and in Laketown Canyon. Troublesome on cattle in Juab County and throughout Kane County; moderate to numerous in Garfield County. (Knowlton). SOUTH DAKOTA - High numbers continue; 200-300 per side of Black Angus adult stock in Charles Mix County. (Berndt). MARYLAND - Averaged over 35 per head on 56 Holstein cows at Woodsboro, Frederick County. (U. Md., Ent. Dept.).

STABLE FLY (Stomoxys calcitrans) - KANSAS - Very numerous in Garden City area of Finney County; causing many complaints. (Simpson, July 23). OKLAHOMA - Averaged 6 per head in Pushmataha County. (Okla. Coop. Sur.). ARIZONA - Heavy and annoying to livestock throughout State. (Ariz. Coop. Sur.). UTAH - Noted about livestock area at Kanosh, Millard County. (Knowlton).

TABANID FLIES - NORTH DAKOTA - Deer flies and horse flies troublesome in some areas. (Frye, Thomasson). UTAH - Annoying cattle in Pickleville-Laketown area of Rich County and in Laketown Canyon. Moderately numerous in Panquitch and Garfield areas to Junction, Piute County, in meadow areas. (Knowlton). NEW MEXICO - Tabanus sp. heavy and very annoying around farms and fields in northern San Juan County. (Heninger). OKLAHOMA - Tabanus spp. averaged 3 per head in Pushmataha County. Moderate to heavy in Garvin, Bryan and Cotton Counties. (Okla. Coop. Sur.).

CATTLE GRUBS (Hypoderma spp.) - UTAH - Adults running cattle occasionally in Garfield and Kane Counties. (Knowlton). SOUTH CAROLINA - Adults annoying to cattle in pastures in Chester County for some time. (Wylie, July 27).

BLOW FLIES - WISCONSIN - Heavy in Rock County in heavily manured field. (Wis. Ins. Sur.). UTAH - Phormia regina (black blow fly) numerous and troublesome about mountain forest camps at 9,000 feet elevation at Monte Cristo, Rich County. (Knowlton).

BLACK FLIES - UTAH - Causing some annoyance to humans in Abraham-Delta area, Millard County. (Knowlton).

A BOT FLY (Cuterebra sp.) - OKLAHOMA - Fully-grown larvae heavy in jack rabbit in Tillman County. (Okla. Coop. Sur.).

SNIPE FLIES (Symphoromyia spp.) - UTAH - Very troublesome in Monte Cristo campground area and Allen Canyon in Rich County; annoying in parts of Logan Canyon, Cache County. (Knowlton).

A SCATOPSID FLY (Scatopse fuscipes) - CALIFORNIA - Adults heavy and annoying in Yucaipa, San Bernardino County. (Cal. Coop. Rpt.).

TICKS - UTAH - Otobius megnini (ear tick) annoying few cattle at Minersville, Beaver County. (Knowlton). OKLAHOMA - Amblyomma americanum (lone star tick) averaged 5 adults and 1,000 larvae per head on cows checked in Pushmataha County; 50 per head on deer in McCurtain County. Heavy on cattle in Haskell County. Unspecified species heavy on lawns in Fairland area, Ottawa County. (Okla. Coop. Sur.). NEBRASKA - Dermacentor variabilis (American dog tick) numerous on dogs in Lincoln, Lancaster County. (Rhine). WISCONSIN - Activity of wood ticks decreased; only occasional reports. (Minn. Ins. Rpt.). CONNECTICUT - Rhipicephalus sanguineus (brown dog tick) noted in Woodbridge and D. variabilis noted in Manchester. (Johnson).

FLEAS (Ctenocephalides spp.) - MISSOURI - Numerous on dogs in Columbia, Boone County. (Peters). VIRGINIA - Annoying to children in home at Sutherland, Dinwiddie County. (Isakson, Davis, July 26). MARYLAND - Causing considerable annoyance in several locations in Prince Georges County. (U. Md., Ent. Dept.). CONNECTICUT - Controls recommended in homes of returning vacationers. (Savos).

VESPID WASPS - RHODE ISLAND - Polistes spp. and Vespula spp. causing normal seasonal complaints from all areas. (Mathewson, King, Veilleux). NORTH CAROLINA - Undetermined species killed 5-6 pound dog July 19 in Wake County; dog chained and stung many times by ground-nesting species. (Mount).

MASKED HUNTER (Reduvius personatus) - UTAH - Often found in blacklight traps at Benjamin, Utah County. (Knowlton).

NORTHERN FOWL MITE (Ornithonyssus sylviarum) - CALIFORNIA - Causing considerable nuisance to humans and pets; general on plants in yard in Atherton, San Mateo County. (Cal. Coop. Rpt.).

BLACK WIDOW SPIDER (Latrodectus mactans) - NORTH CAROLINA - Caused considerable concern to Wake County resident; several specimens found in child's play house and in rock wall. (Mount).

HOUSEHOLD AND STRUCTURAL INSECTS

FORMOSAN SUBTERRANEAN TERMITE (Coptotermes formosanus Shiraki) - TEXAS - First established infestation of this destructive species found in shipyard warehouse in Houston, Harris County. Collections made July 2 and 12 determined by T. E. Snyder. Source of infestation is unknown, but apparently had been established for some time. Although little information is available in literature, this termite is known to be very destructive to wooden structures. In Hawaii alone, it is estimated to have caused 2 million dollars damage a year. Although a subterranean species, C. formosanus can live without contact with soil if

environment is sufficiently damp. Thus, individuals can live and multiply in ship's timbers and be transported long distances. It is believed the species has but one generation a year; however, it multiplies rapidly. C. formosanus was described from Formosa and has been reported from Japan, the China mainland, Okinawa, the Phillippines, Hawaii and was found in South Africa in 1927. (PPC).

FLORIDA CARPENTER ANT (Camponotus abdominalis floridanus) - FLORIDA - Adults under home at Gainesville, Alachua County, (Shirah, July 21); collected from wall at Tavares, Lake County (Fatic, July 21).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - NEW HAMPSHIRE - Entering homes in Belknap and Strafford Counties. (Conklin, Sutherland). RHODE ISLAND - Invading homes in Warwick, Kent County, and in Providence and Cranston, Providence County. (Mathewson, Veilleux). CONNECTICUT - Causing concern to many homeowners. (Savos). VIRGINIA - Large numbers noted in home basement in Augusta County. (Isakson, Morse). INDIANA - Adults invading homes statewide. (Lehker). MICHIGAN - Adults causing nuisance in Livingston County homes; 50 or more per evening reported in some homes. (Newman). WISCONSIN - This and Calomycterus setarius continue to enter homes. Problem apparently statewide. (Wis. Ins. Sur.). SOUTH DAKOTA - Problem in homes in Custer, Custer County; Aberdeen, Brown County; and Mitchell, Davison County. (Jones).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - NORTH CAROLINA - Nuisance in homes in Lee, Vance and Stanly Counties. (Jones). INDIANA - Adults invaded home in Harrison County. (Lehker).

ELM LEAF BEETLE (Galerucella xanthomelaena) - MICHIGAN - Adults entering homes and other buildings in Wayne County. (Janes).

BLACK CARPET BEETLE (Attagenus piceus) - NORTH CAROLINA - This species and Anthrenus sp. adults collected on carpet in Person County area. (Robertson).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Extremely numerous about homes and in some fields and roadside campsites in Garfield and Kane Counties. Much more troublesome than in 1963 and 1964. (Knowlton). NEW HAMPSHIRE - Continues troublesome to homeowners. (Conklin).

EARWIGS - NEW JERSEY - Entering homes in northern and central counties. (Ins.-Dis. Newsltr.).

A NOCTUID MOTH (Litoprosopus futilis) - FLORIDA - Larvae localized and moderate in home at Fort Pierce, St. Lucie County. (Campbell, July 19).

MILLIPEDS - VIRGINIA - Entering several homes in section of Emporia, Greensville County. (Isakson, Flippen). Large numbers noted on lawn of home in Gloucester County. (Isakson, Birdsall). GEORGIA - Heavy and entering homes in Griffin. (Tippins).

STORED-PRODUCT INSECTS

A DARKLING BEETLE (Cynaeus angustus) - DELAWARE - Adults numerous around base of feeders in poultry house at Newark, New Castle County, July 8. Collected by R. T. Alls. Det. by T. J. Spilman. This is a new State record. (Burbutis, Woodall).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - UTAH - Infesting stored grain in large granary at Manila, Daggett County. (Knowlton).

COWPEA WEEVIL (Callosobruchus maculatus) - CALIFORNIA - Larvae heavy in package of blackeye peas in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

DAMSEL BUGS - INDIANA - Average 2-3 per sweep on alfalfa in central and northern two-thirds of State. (Huber). ARKANSAS - Nabis spp. averaged 2.7 per 30 feet of row in soybeans checked in Lee County. (Ark. Ins. Sur.). UTAH - Nabis sp. and N. alternatus numerous in alfalfa fields in Millard County. (Knowlton).

BIG-EYED BUGS (Geocoris spp.) - ARKANSAS - G. punctipes continues most important beneficial species in soybeans checked in Lee County. Averaged 4.2 adults and 16.5 nymphs per 30 feet of row. (Ark. Ins. Sur.). UTAH - Numerous in alfalfa fields in Millard County. (Knowlton). IDAHO - Averaging 225 per 100 sweeps in alfalfa seed field in Arena Valley, Canyon County. (Waters).

ASSASSIN BUGS - UTAH - Numerous in alfalfa fields in Millard County. (Knowlton).

AN ANTHOCORID BUG (Orius tristicolor) - UTAH - Numerous in alfalfa fields in Millard County. (Knowlton).

LACEWINGS - NORTH DAKOTA - Larvae and adults abundant in most fields where aphids present. (Frye, Thomasson). WYOMING - Chrysopa spp. adults and larvae averaged 46 per 100 sweeps in alfalfa fields in Big Horn, Washakie and Hot Springs Counties. (Marks). UTAH - Adults and larvae of unspecified species numerous in alfalfa fields in Millard County. (Knowlton).

LADY BEETLES - WISCONSIN - Adults, larvae and eggs becoming increasingly common in fields more heavily infested with Rhopalosiphum maidis. (Wis. Ins. Sur.). NORTH DAKOTA - Abundant in most fields where aphids present. (Frye, Thomasson). WYOMING - Adults and larvae averaged 74 per 100 sweeps in alfalfa fields and 60 per 100 sweeps in grain fields of Big Horn, Washakie, Hot Springs and Fremont Counties. (Marks). UTAH - Adults and larvae numerous in alfalfa fields in Millard County. (Knowlton). NEW MEXICO - Very abundant on flowers, vegetables and ornamentals in home plantings in northern San Juan County. (Heninger).

MELYRID BEETLES (Collops spp.) - UTAH - Numerous in alfalfa fields in Millard County. (Knowlton).

A LEAFCUTTING BEE (Megachile rotundata) - IDAHO - All nesting sites visited in Canyon, Owyhee and Elmore Counties infested by at least 2 species of chalcids. (Mink et al.).

CICADA KILLER (Sphecius speciosus) - OKLAHOMA - Numerous in Tillman County. (Okla. Coop. Sur.).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - OHIO - At Washington Court House, Fayette County, 3-4 specimens collected July 19-23. This is outside 1964 regulated area. P. japonica has occurred in Fayette County in past, but no recent collections. (Brubaker, Moore). MICHIGAN - Very few adults taken in all trapping areas. In Battle Creek area collections scattered; generally one beetle per trap. (Ring).

A SAP BEETLE (Glischrochilus quadrisignatus) - WISCONSIN - Becoming problem in situations where food exposed; particularly attracted to bananas and other foods at picnics. (Wis. Ins. Sur.).

A LANGURIID BEETLE (Languria trifasciata) - FLORIDA - Adults taken on grasses and weeds at Hialeah, Dade County, July 14, by C. E. Stegmaier, Jr. This is a new State record. (Fla. Coop. Sur.).

MEAL MOTH (Pyralis farinalis) - NORTH CAROLINA - Very abundant in floor litter of large brooder house in Nash County. Some feed spilled into litter. Det. by D. A. Mount. (Jones).

A ROPALOMERID FLY (Rhytidops floridensis) - FLORIDA - Collected at Sanford, Seminole County. (Desin, June 28). This is sixth specimen of this rarely collected species for Florida State Collection of Arthropods. (Fla. Coop. Sur.).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - FLORIDA - Adults taken in soil at 3 nurseries in Hillsborough County. (Simmons, July 20, 22).

A LAND SNAIL (Oxychilus cellarius) - CALIFORNIA - Population medium locally in soil in Santa Paula, Ventura County. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 15(24):602 - GRASSHOPPERS - UTAH - Trimerotropus spp. should read Trimerotropis spp.

CEIR 15(26):675 - Line 1 - Trimerotropus spp. should read Trimerotropis spp.

CEIR 15(29):786 - SPOTTED ALFALFA WEEVIL should read SPOTTED ALFALFA APHID.

CEIR 15(30):838 - LIGHT TRAP COLLECTIONS - MISSISSIPPI - Delete entries for Stoneville and Rolling Fork, and enter following figures: Stoneville, 7/9-15 - A. ipsilon 29, F. subterranea 114, H. zea 41, P. saucia 3, P. ornithogalli 203, P. quinquemaculata 7, P. sexta 9, S. exigua 2, S. frugiperda 6, T. ni 3; Rolling Fork 7/9-15 - A. ipsilon 6, F. subterranea 19, H. zea 27, P. saucia 1, P. ornithogalli 23, P. quinquemaculata 1, P. sexta 16, S. exigua 8, S. frugiperda 3, T. ni 20. (Pfrimmer).

CEIR 15(31):859 - WALNUT CATERPILLAR (Datana integerrina) should read (Datana integerrima).

ADDITIONAL NOTES

WASHINGTON - FACE FLY (Musca autumnalis) adult taken July 30 in Malaise trap near Pullman, Whitman County; det. by M. T. James. This is a new State record and the westernmost extension of this fly. (Akre). All stages of PEA APHID (Acyrthosiphon pisum) noted on seed and forage alfalfa at Mabton, Yakima County, July 12; averaged 160 per sweep, causing none to moderate damage. Averaged 1 per sweep at Pasco, Benton County. Alate immigrants noted in Walla Walla area, Walla Walla County; 0.5-82 (averaged 22) per sweep. Most fields mowed at Mabton and Pasco; 50 percent of fields checked in Walla Walla area populated with alates. On July 26, counts were 14 per sweep at Mabton, 28 per sweep at Pasco and 505 per sweep at Walla Walla; 50 percent of Walla Walla fields with small populations of alates. VARIEGATED CUTWORM (Peridroma saucia) unusually scarce in northwest area on vegetables and seed crops. (Halfhill). A CUTWORM (probably P. saucia) caused moderate to heavy damage to mint, potatoes and field corn July 15 in Clark County. (Shanks). Buildup of ALFALFA LOOPER (Autographa californica) unusually large in peas, corn and seed crops in northwest area. (Eide). Late-stage larvae probably WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) damaging peas, lentils and gardens near Pullman, Whitman County. (Telford). Colonies of BEAN APHID (Aphis fabae) being established on sugar beets at Walla Walla; causing light damage. (Landis).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Acronyta jesulon (black cutworm)	Carpocapsa pomonella (codling moth)	Choristoneura auxiliaris (gray cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (dusky head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiticalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege sticticalis (sugar beet webworm)	Ostrinia nubilalis (European corn borer)	Pertrona saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tobacco hornworm)	Protoparce sexta (tobacco hornworm)	Pseudalabis unipunctata (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
ARKANSAS																								
Morrilton 7/27-28				7						0	41					1				40				
Kelso 7/27-28				1						1	8					0				0				
Fayetteville 7/27-28				0						3	74					12				0				
ILLINOIS (County)																								
Champaign 7/23-29	59-89	none		275							3				28	152	122			244		11	13	
INDIANA (Counties)																								
Posey 7/17-23			BL	9			12				2				854	12		2	4	63				
Vanderburgh 7/17-23			BL	29			5				2				76	12		0	3	87				
Harrison 7/17-23			BL	12			3				6				49	8		0	9	74				
Dubois 7/17-23			BL	24			13				5				42	10		0	7	138				
Sullivan 7/17-23			BL	3			2				0				4	2		2	2	75				
Greene 7/17-23			BL	6			11				1				18	5		0	2	58				
Jackson 7/17-23			BL	20			3				7				15	8		1	6	91				
Switzerland 7/17-23			BL	62			1				0				2	18		0	7	124				
Franklin 7/17-23			BL	26			5				1				16	13		0	5	158				
Parke 7/17-23			BL	70			8				0				5	20		2	17	98				
Shelby 7/17-23			BL	13			6				1				3	25		1	3	93				
Hamilton 7/17-23			BL	41			4				2				5	32		0	1	165				
Tippecanoe 7/17-23			BL	52			0				2				15	26		0	1	191				
Wells 7/17-23			BL	10			4				0				1	10		1	1	49				
Jasper 7/17-23			BL	11			5				0				2	15		0	0	67				
Allen 7/17-23			BL	11			4				0				3	10		0	0	75				
St. Joseph 7/17-23			BL	18			0				0				3	30		2	0	151				
La Grange 7/17-23			BL	6			4				0				1	6		5	3	78				
MARYLAND																		spp.						
Centreville 7/20-26				17							14				72	7		3		40		5		
Snow Hill 7/20-26				22							83				212	26		2		194			28	
MASSACHUSETTS																								
East Wareham State Bog 7/17-23					1						1									8				
Paterson Bog 7/17-23																				8				
MICHIGAN (Counties)																								
Berrien 7/20-26			BL	19												11	3			47				
Branch 7/20-26			BL	25												19	2			63				
Monroe 7/20-26			BL	18												12	2			30				
Kalamazoo 7/20-26			BL	10												8	1			38				
Jackson 7/20-26			2 BL	21												14	1			30				
Livingston 7/20-26			BL	20												14	0			21				
Ionia 7/20-26			BL	14												11	0			54				
Saginaw 7/20-26			BL	10												6	0			24				
Sanilac 7/20-26			BL	23												17	0			42				
Bay 7/20-26			BL	24												9	0			28				

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiralis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Perilcosa saula (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	crops **
MICHIGAN (continued)																								
Ogemaw 7/20-26			BL	9											7	0			6					
Newaygo 7/20-26			BL	28											7	1			24					
Chippewa 7/20-26			BL	12											6	0			23					
Menominee 7/20-26			BL	17											11	0			27					
Iron 7/20-26			BL	7											9	0			27					
MINNESOTA																								
Worthington 7/17-23				8					0				0	0	3	0			7					
Fergus Falls 7/17-23				1					0				0	29	0	7			0					
Crookston 7/17-23				3					0				0	12	29	0			19					
Rochester 7/17-23				8					0				1	1	47	1			40					
Shakopee 7/17-23				2					1				0	3	6	6			9					
MISSISSIPPI																								
Stoneville 7/23-29	70-98	0.47	2 BL	14					91	2	155				2	99	9		59	2	20	22		
Rolling Fork 7/23-29	69-98	1.04	BL	17					73	4	51					40	7		16	5	5	44		
Tunica 7/23-29	66-99	0.92	BL	53			1		191	10	89				2	90		21	20	3	70	33		
MISSOURI																								
Portageville 7/24-30			BL	14							202			547	3	141			59					
NEW JERSEY																								
Aura 7/26, 30											2			10		6	1		9					
Edinburg 7/26, 30											9			22					36					
Masonville 7/26, 30											31			9		3		1	2					
Seabrook 7/26, 30											13			6		13			13					
Hardingville 7/26					5																			
Huffville 7/26					4																			
NORTH DAKOTA																								
Fargo 7/23-30				3									3	16					2					
Bismarck 7/23-30													135	10					1					
Williston 7/23-30													43											
OHIO (Counties)																								
Licking 7/22-28			BL	1												1			1					
Wayne 7/22-28			BL	2													3							
Franklin 7/25-28			BL	5											2	8			8					
SOUTH CAROLINA																								
Charleston 7/26-8/1	72-92	3.91	BL	4			0		0	0	8				3	0	0	0	0		0	0		
Clemson 7/3-9			BL	2					3						1	90		2	12					
Clemson 7/10-16			BL	1					6		3				1	109		2	2					
SOUTH DAKOTA																								
Brookings 7/23, 26-28			BL	33												sp. 112			45					

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Caripeta piniperda (hemlock looper)	Chrysanthemum pyrethroides (chrysanthemum moth)	Exelastis atomosa (spruce budworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	Lonchocera salicina (willow twigs)	Lonchocera salicina (willow twigs)	Lonchocera salicina (willow twigs)	Lonchocera salicina (willow twigs)	Oncocnemis sinuata (tobacco budworm)	Pectinophora gossypiella (pink bollworm)	Pectinophora gossypiella (pink bollworm)	Pectinophora gossypiella (pink bollworm)	Pectinophora gossypiella (pink bollworm)	Pectinophora gossypiella (pink bollworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
TENNESSEE (Counties)																							
Knox 7/20-26				17				27	18					39	56	6	7	122					
Johnson 7/20-26								2	2					6	18	1	10	6					
TEXAS																							
Waco 7/25-30				2		1		22	2	106				2	1					3	157		
WISCONSIN																							
Platteville 7/21-27			BL	11						0			1	61				52					
Darien 7/20-26			BL							3			4					326					
Janesville 7/20-26			BL							1			3					70					
Evansville 7/20-26			BL							1			9					210					
Delavan 7/20-26			2 BL	389						0			6	252				806					
Fontana 7/20-26			BL	53						0			4	20				69					
Wallworth 7/24-26			BL	26						0			0	15				26					
Mazomanie 7/20-25			BL	4						1			0	3				2					
Madison 7/21-27	52-98		BL	112						0			0	43				147					
Middleton 7/21-27			BL	31						0			0	22				41					
Columbus 7/20-26			BL							4			12					300					
Arlington 7/20-26			BL							2			2					491					
Wayne 7/20-26			BL							0			8					36					
Theresa 7/20-26			BL							0			6					69					
Nenno 7/20-26			BL							0			5					73					
Rosendale 7/20-26			BL							0			120					113					
Ripon 7/20-26			BL							0			130					128					
Eden 7/20-26			BL							0			11					53					
Oakfield 7/20-26			BL							0			1					47					
Fox Lake 7/20-26			BL							2			10					62					
Beaver Dam 7/20-26			BL							6			108					161					
Danville 7/20-26			BL							2			18					227					
Clyman 7/20-26			BL	4						0			4					8					
Cedar Grove 7/20-26			BL	15						2			101					134					
Waldo 7/20-26			BL	32						0			13	50				186					

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

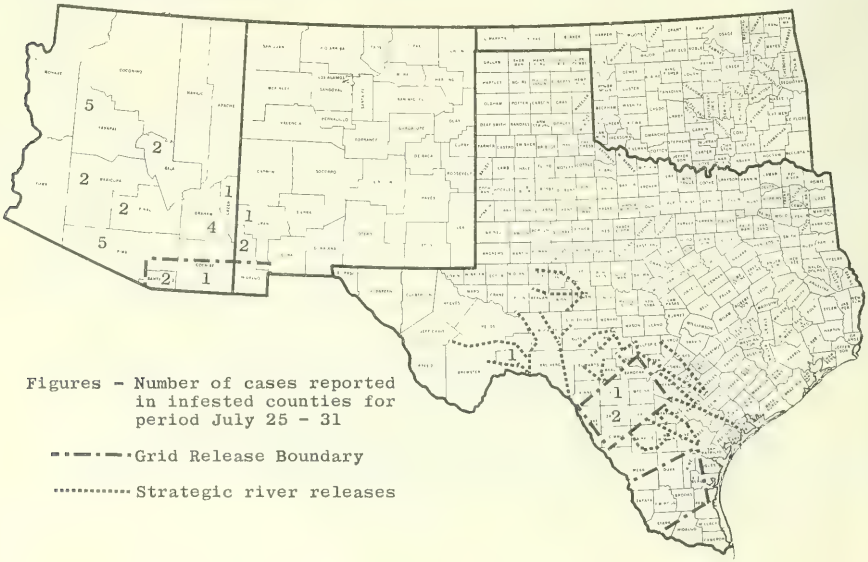
** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period July 25-31, a total of 31 cases was reported in the Southwestern Eradication Area, as follows by States and counties: TEXAS - Zavala 2, Terrell 1, Uvalde 1; NEW MEXICO - Hidalgo 2, Grant 1; ARIZONA - Cochise 1, Gila 2, Greenlee 1, Maricopa 2, Pima 5, Santa Cruz 2, Graham 4, Yavapai 5, Pinal 2. The Republic of Mexico reported 141 cases: Baja California Norte 1, Baja California Sur 43, Sonora 18, Chihuahua 20, Coahuila 18, Nueva Leon 2, Tamaulipas 3, Durango 17, Veracruz 14, Sinaloa 2, San Luis Potosi 3. Sterile screw-worm flies released: Texas 22,006,250, Arizona 9,098,000, New Mexico 3,040,000, California 200,000, the Republic of Mexico 91,504,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding weeks in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	46	2,276	74	4,421	8.10	51.48
1964	0	104	67	4,130	0.00	2.51
1965	31	467	91	3,460	34.06	13.49
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	137	1,272	77	1,257	177.92	101.19
1965	129	2,782	62	1,457	208.06	190.94
Table 2A. Mexican portion of Barrier Zone only.						
1964	132	1,188	56	549	235.71	216.39
1965	105	2,399	45	806	233.33	297.64

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Dis. Erad. Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Nebraska (State or District) DURING 1964 (Year)

ATTACKING Sorghum (Commodity or Crop)

A. Pest or pest complex: Corn leaf aphid, cutworms, grasshoppers, wireworms, root aphids, chinch bug, seed-corn maggot, seed-corn beetle, plant bugs

B. Number of acres [a] produced (From CRS)	No.	2,251,000
C. Average yield per acre [a] (From CRS)	Units/	47.0 bu.
D. Price[b] per unit (bu.)[c] (From CRS)	$/	1.01
E. Acres [a] needing control	No.	495,220
F. Acres [a] treated	No.	270,120
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	5.0
I. Loss in yield, units per acre [a], C x H	Units/	2.35 bu.
J. Loss in yield, $ per acre [a], D x I	$/	2.37
K. Loss in quality, $ per ---- [a]	$/	----
L. Yield loss for all acres [a], (E-F) x I	Units	528,985 bu.
M. Control cost, $ per acre [a],	$/	2.90
N. Control cost for all acres [a], F x M	$	783,348.00
O. Yield loss for all acres [a], (E-F) x J	$	533,487.00
P. Quality loss for all ---- [a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	1,316,835.00

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

ATTACKING Hay (Commodity or Crop)

A. Pest or pest complex: Grasshoppers, garden webworm, cutworms, spotted alfalfa aphid, plant bugs, pea aphid, clover aphid, leafhoppers, clover weevils, alfalfa weevil, alfalfa caterpillar, webworms, corn rootworms, armyworms, grubs

B. Number of acres [a] produced (From CRS)	No.	5,045,000
C. Average yield per acre [a] (From CRS)	Units/	1.20 ton
D. Price[b] per unit (ton)[c] (From CRS)	$/	19.00
E. Acres [a] needing control	No.	252,250
F. Acres [a] treated	No.	100,900
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	5.0
I. Loss in yield, units per acre [a], C x H	Units/	.06 ton
J. Loss in yield, $ per acre [a], D x I	$/	1.14
K. Loss in quality, $ per ---- [a]	$/	----
L. Yield loss for all acres [a], (E-F) x I	Units	9,081 tons
M. Control cost, $ per acre [a],	$/	2.65
N. Control cost for all acres [a], F x M	$	267,385.00
O. Yield loss for all acres [a], (E-F) x J	$	172,539.00
P. Quality loss for all ---- [a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	439,924.00

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Nebraska (State or District) DURING 1964 (Year)

ATTACKING Alfalfa seed (Commodity or Crop)

A. Pest or pest complex: Plant bugs, leafhoppers, grasshoppers, aphids, cutworms, weevils, wireworms, blister beetles, webworms

B. Number of acres [a] produced (From CRS)	No.	60,000
C. Average yield per acre [a] (From CRS)	Units/	75 lb.
D. Price[b] per unit (lb.)[c] (From CRS)	$/	0.25
E. Acres [a] needing control	No.	51,000
F. Acres [a] treated	No.	27,000
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	15.0
I. Loss in yield, units per acre [a], C x H	Units/	11.25 lb.
J. Loss in yield, $ per acre [a], D x I	$/	2.81
K. Loss in quality, $ per ---- [a]	$/	----
L. Yield loss for all acres [a], (E-F) x I	Units	270,000 lb.
M. Control cost, $ per acre [a],	$/	2.65
N. Control cost for all acres [a], F x M	$	71,550.00
O. Yield loss for all acres [a], (E-F) x J	$	67,440.00
P. Quality loss for all ---- [a], (E-F) x K	$	---
Q. Combined control cost and losses, N + O + P	$	138,990.00

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

ATTACKING Soybeans (Commodity or Crop)

A. Pest or pest complex: Bean leaf beetle, white grubs, Mexican bean beetle, green cloverworm, grasshoppers, corn rootworms, cutworms, webworms, wireworms

B. Number of acres [a] produced (From CRS)	No.	495,000
C. Average yield per acre [a] (From CRS)	Units/	23 bu.
D. Price[b] per unit (bu.)[c] (From CRS)	$/	2.50
E. Acres [a] needing control	No.	24,750
F. Acres [a] treated	No.	4,950
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	2.0
I. Loss in yield, units per acre [a], C x H	Units/	.46 bu.
J. Loss in yield, $ per acre [a], D x I	$/	1.15
K. Loss in quality, $ per ---- [a]	$/	----
L. Yield loss for all acres [a], (E-F) x I	Units	9,108 bu.
M. Control cost, $ per acre [a],	$/	3.10
N. Control cost for all acres [a], F x M	$	15,345.00
O. Yield loss for all acres [a], (E-F) x J	$	22,770.00
P. Quality loss for all ---- [a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	38,115.00

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

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HYATTSVILLE, MD. 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 August 13, 1965 Number 33

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GRASSHOPPER populations range moderate to heavy on range and crop lands in some Western States, with moderate to heavy damage reported to some crops. Some damage to corn, sorghum and small grains also reported. BENEFICIAL INSECTS noted in some infested areas. CAROLINA GRASSHOPPER reported causing noticeable damage to tobacco in Wisconsin. (pp. 919, 920, 935). SOD WEBWORMS (Crambus spp.) heavily damaging lawns in Washtenaw County, Michigan. (p. 920). Heavy EUROPEAN CORN BORER moth flights indicate possible problem in late corn on Eastern Shore of Maryland; moth flight continues heavy in Delaware and Indiana; second-generation larvae heavier in corn in southeast Missouri. (p. 921). CORN EARWORM a problem on field and sweet corn in areas of New Mexico and increasing in sweet corn for processing on Eastern Shore of Maryland. (pp. 921, 922). FALL ARMYWORM reported damaging corn in several States; building up in late corn in Iowa. (p. 922). CORN ROOTWORMS (Diabrotica spp.) continue a problem on corn in several States, with considerable adult feeding on silks and lodging in many fields reported. (pp. 922, 923). CORN LEAF APHID increasing in Ohio and Illinois, continues high on corn in Wisconsin and reported heavy on other grain crops in some areas. (p. 924). SORGHUM MIDGE populations threatening on grain sorghum in New Mexico. (p. 925).

SPOTTED ALFALFA APHID rather heavy on alfalfa in Indiana, populations decreasing in Wisconsin and some spraying underway in Oklahoma. (p. 925). PEA APHID high on alfalfa in the Dakotas and southern Indiana; decreasing in Arkansas Valley of Colorado. (pp. 925, 926). LYGUS BUGS abundant on alfalfa in Nevada, Arizona and Nevada; damaging squares of cotton in Arizona. POTATO LEAFHOPPER continues problem on alfalfa in all sections of Maryland; damage evident to this crop in Massachusetts, New York, Wisconsin and Nebraska; may become serious in Iowa. Also severe on commercial potatoes in Wisconsin. THREE-CORNERED ALFALFA HOPPER increasing generally on alfalfa in Arizona. (pp. 926, 934, 937). ALFALFA SEED CHALCID increasing in many fields of seed alfalfa in California. SPIDER MITES building up to damaging numbers on soybeans on Eastern Shore of Maryland and heavy buildup of TWO-SPOTTED SPIDER MITE on hops in Willamette Valley of Oregon underway with advent of hot weather in July. (pp. 928, 934).

Larvae of a CLEARWING MOTH (Sanninoidea sp.) serious in peach orchards in New Mexico. APPLE-AND-THORN SKELETONIZER second-generation larvae heavy on apple trees throughout Willamette Valley, Oregon. (p. 928). Continued controls urged for APPLE MAGGOT in several areas. (pp. 929, 930). CALIFORNIA RED SCALE found in nursery in Phoenix, Arizona; eradication procedures underway. (p. 931). MEXICAN BEAN BEETLE damaging in Colorado; again found in Boise, Idaho. (p. 932). TOBACCO FLEA BEETLE adults unusually high on tobacco in southern Indiana and moderate to heavy in Maryland. GREEN PEACH APHID moderate to heavy on tobacco in Maryland. (p. 935).

BOLL WEEVIL situation critical in many cotton areas of North Carolina; migrations heavy in several other Cotton States. Infestations of BOLLWORMS increasing in some cotton areas. (pp. 935, 936, 937).

JACK-PINE BUDWORM caused moderate to heavy defoliation in southwest corner of Chippewa National Forest in Minnesota and LARCH SAWFLY defoliated tamarack in Wisconsin. PINE SPITTLEBUGS (Aphrophora spp.) numerous in most of Minnesota jack-pine area. (p. 939). ELM LEAF BEETLE continues to cause heavy defoliation of elms. (pp. 939, 940). MOSQUITOES annoying in several States following recent rains and some flooding. (p. 942). Several PREDATOR SPECIES becoming prevalent and aiding in control of various crop pests.

(Continued on page 918).

DETECTION

A TARSONEMID MITE (Tarsonemus setifer) reported from Delaware for first State record. (p. 946). New county records included: WESTERN CORN ROOTWORM (Diabrotica virgifera) from Mercer, Warren and Henderson Counties, Illinois, and Linn County, Missouri, (p. 923); ALFALFA WEEVIL (Hypera postica) from Orange, Washington and Addison Counties, Vermont, (p. 927); BLACK PECAN APHID (Melanocallis caryaefoliae) from Merced County, California, (p. 931); a MOSQUITO (Psorophora cyanescens) from Talbot County, Maryland, (p. 942); FACE FLY (Musca autumnalis) from Cherokee and Laurens Counties, South Carolina, and Sullivan, Livingston, Daviess and Buchanan Counties, Missouri, (p. 942); JAPANESE BEETLE (Popillia japonica) from Jennings County, Indiana, (p. 945).

CORRECTIONS

See page 946.

FORECAST

EUROPEAN CHAFER expected to cause severe damage to forage crops in some areas of New York in spring of 1966. (p. 923).

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 950).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Potatoes and Field Beans in Nebraska and Field Corn in Wisconsin in 1964. (pp. 951, 952).

Reports in this issue are for week ending August 6 unless otherwise indicated.

WEATHER OF THE WEEK ENDING AUGUST 9

HIGHLIGHTS: (1) Widespread showers, East half. (2) Continued cool, midcontinent and Southeast.

TEMPERATURE: This was the second consecutive moderately cool week in the midcontinent and Southeast. The Corn Belt was 3° to 4° cooler than normal this week. Much of the Southeast was 3° to 6° cooler than normal and slightly cooler than the previous week. In most of the northeastern drought area, weekly temperatures averaged near normal but this was 3° to 6° warmer than the previous week. Lowest temperatures occurred in the East at the beginning of the period and record lows for August 3 were reported from Michigan to West Virginia. Temperatures were near seasonal levels in most areas west of the Great Plains.

PRECIPITATION: A moderate low pressure system moved slowly from the northern Rockies to the Great Lakes during the week. Showers and thunderstorms became quite general in the eastern half of the Nation over the weekend. Light showers also fell in most of the northeast at the beginning of the week. Moderate to heavy showers fell along the gulf coast about midweek. Rainfall was very beneficial in the Northeast, particularly from an agricultural standpoint, with totals of 0.5 to over 1 inch over much of the area. Amounts were less in eastern Massachusetts and coastal Maine. The worst forest fire since 1947 burned over several thousand acres in Washington County, Maine. Rainfall exceeded 0.75 inch in a wide belt from the Great Lakes and upper Mississippi Valley southeastward. Weekly totals were less than 0.25 inch in the west central Great Plains. Except for moderate to heavy showers in the northern Rockies, rainfall was generally light west of the Great Plains. There was very little rain in the Far Southwest. (Summary supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - CALIFORNIA - Camnula pellucida (clear-winged grasshopper) medium on rangeland in Hawkins Bar, Trinity County. (Cal. Coop. Rpt.). NEVADA - Melanoplus bivittatus (two-striped grasshopper), M. packardii (Packard grasshopper) and M. sanguinipes (migratory grasshopper) ranged 15-20 per square yard on 1,500-2,000 acres of alfalfa hay and 300-400 acres of native hay near Montello, Elko County; damage ranged moderate to heavy. Averaged about 50 per square yard in field margins. (Earnist, Maloney). Unspecified trombidiid mites parasitizing some M. bivittatus, M. packardii and M. sanguinipes in Montello area. (Bechtel). IDAHO - Grasshoppers observed in flight July 29 migrating into and over Boise, Ada County; M. sanguinipes principal species. Grasshoppers in lighter numbers observed in Horse Shoe Bend area, Boise County, July 30. Many migrating grasshoppers probably originated in area between Emmett and Eagle where populations decreased markedly in one area where populations ranged 50-60 per square yard and now range 10-12 per square yard. Grasshoppers still hatching at higher elevations, and mostly second to fourth instars. Survey in West Mountain area July 26 difficult due to snow drifts in road. Grasshoppers caused marginal damage in Ada, Payette and Washington Counties and in unsprayed areas in Gem County during July. Fields of second-growth alfalfa in Horse Shoe Bend and Moores Creek areas completely stripped. During July, heavy populations of sarcophagid flies observed throughout all desert areas where grasshoppers extremely numerous. In Orchard area, Ada County, unspecified wasps present in large numbers. Blister beetles numerous in Washington and Camas Counties during July; in Minidoka County, these beetles sufficiently numerous to be problem in crop areas. Controls for grasshoppers applied to 278,990 acres in Ada, Boise, Elmore and Gem Counties during July. (PPC). WYOMING - Melanoplus spp. caused slight feeding damage to alfalfa and small grains in north central and northeast counties; averaged 18-20 per square yard in more heavily infested areas. (Marks).

UTAH - Cooperative controls applied to 61,205 acres of rangeland in Sanpete County; adults present, egg laying beginning. (Thornley, Knowlton). Grasshoppers conspicuous on Rozell Flats, Box Elder County. Epicauta spp. (blister beetles) very numerous in area. (Dorst, Knowlton). Controls applied to unspecified 95,000 acres for control of rangeland grasshoppers also destroyed populations of Pogonomyrmex occidentalis (western harvester ant) over treated areas. (Thornley, Knowlton). ARIZONA - In Apache County, grasshoppers averaged 30 per square yard on 1,000 acres at Springerville, with M. bivittatus, M. sanguinipes, Aulocara elliotti and Camnula pellucida dominant species; averaged 12 per square yard in alfalfa at Saint Johns, with M. angustipennis, Dissosteira carolina (Carolina grasshopper) and M. sanguinipes dominant species. C. pellucida averaged 100 per square yard on 300 acres in Sitgreaves National Forest. Aulocara elliotti and Hesperotettix viridis averaged 12 per square yard on 10,000 acres in Beaver Creek Watershed. (Ariz. Coop. Sur.). NEW MEXICO - Grasshoppers averaged 36 per square yard on about 500 acres of rangeland in area north of Gavilan, Rio Arriba County; Aulocara elliotti, Melanoplus occidentalis and Melanoplus spp dominate. Light infestation found on Forest Service reseeded area southwest of Abiquiu, Rio Arriba County. (PPC). Adults averaged less than 1 per square yard in Dona Ana, Luna and Hidalgo Counties, except in small area south of Las Cruces (Dona Ana County) and Cloverdale area (Hidalgo County) where counts averaged 2 per square yard. Light infestation of 1-2 per square yard in fields and 4-6 along margins, found in Gila-Cliff area, Grant County. (Seaton). Counts per 25 sweeps in alfalfa ranged 5-10 near Moriarty (Torrance County), 5-20 near Sandoval (Sandoval County), 12-20 near Belen (Valencia County) and 5-15 near Albuquerque (Bernalillo County). (Heninger). OKLAHOMA - Several species ranged moderate to heavy on rangeland and crop margins in several west central, southwest, south central and central counties. Reported heavy on rangeland and crops in Murray, Haskell and Mayes Counties. (Okla. Coop. Sur.). KANSAS - Local grasshopper populations increasing; becoming problem in southeastern areas. (Gates, July 30). Averaged 5-8 per square yard throughout east central and southeast districts; damage noticeable to corn and sorghum. (Simpson). SOUTH DAKOTA - Grasshoppers classified as light to noneconomic in south central district, including Gregory, Tripp, Todd and Bennett Counties, although counts

ranged 15-20 per square yard in field margins in several instances. Field margins included sorghum, corn and alfalfa south of Gregory, Gregory County, and north and south of Colome, Tripp County. Counts sufficiently high to warrant control for protection of adjacent crops. Large populations of predaceous blister beetles observed near Millboro, Tripp County; ranged approximately 4-8 per square yard. Species included Epicauta fabricii (ash-gray blister beetle), E. pennsylvanica (black blister beetle) and E. maculata (spotted blister beetle). Dominant grasshopper species included M. femurrubrum (red-legged grasshopper) in alfalfa, M. differentialis (differential grasshopper) in sorghum, and M. differentialis and M. bivittatus in corn. (Jones, Novotny). Grasshoppers mostly noneconomic in areas just east of Missouri River, including Campbell, Walworth, Potter and Hughes Counties. Light populations of M. femurrubrum important species in alfalfa. (Burge). NORTH DAKOTA - M. bivittatus remains dominant species in western counties; range up to 30-40 per square yard in field margins and 20-25 per square yard within fields near Sentinel Butte, Golden Valley County. Average, however, approximately 8-12 per square yard in margins and 3-5 in fields. Approximately one-third in adult stage. (Cushing). MINNESOTA - Grasshoppers moving out of alfalfa into soybeans and corn due to hay removal. Also moving into these crops from recently cut roadsides. Damage observed only in marginal rows of crops. Counts vary from field to field; range 2-50 per square yard. M. femurrubrum generally in fourth and fifth instars, with adults appearing; some first and second instar nymphs still found in west central district. M. bivittatus nearly all adults. M. differentialis generally fifth instar to adult. If control anticipated, growers should not hesitate. Movement into crops will increase rapidly as grasshoppers become winged. (Minn. Ins. Rpt.). WISCONSIN - Grasshopper development considerably prolonged due to cool weather. Most nymphs of M. femurrubrum remain in fourth and fifth instars; small nymphs, presumably second instar, becoming noticeable in far northern counties. Feeding on crops minimal, although damage to alfalfa observed in few Iowa and Grant County fields where populations range 30-40 per square yard. Light feeding by unspecified grasshoppers reported on outside rows of soybeans in Trempealeau County and in marginal areas of grain in Fond du Lac County. Arphia sp. adults common along roadsides in central counties. Adults and nymphs of Oecanthus spp. (snowy tree crickets) common in alfalfa in southern area. (Wis. Ins. Sur.). MICHIGAN - Grasshopper nymphs ranged 0.5-3 (average 1.6) per sweep in 5 fields of Ingham County alfalfa sampled August 3. (Dowdy).

MORMON CRICKET (Anabrus simplex) - IDAHO - Present on approximately 5,000 acres in Washington County during July; oviposition occurred during first week. Adults present over approximately 500 acres in Camas County, principally on conservation reserve lands. Light numbers of fourth instars present week of July 26 in Greenfield Meadows at head of Squaw Creek in Gem County. Few scattered adults reported in hay fields in Matfield area, Elmore County. (PPC).

FIELD CRICKETS (Gryllus spp.) - NORTH DAKOTA - Ranged up to 10 per square yard near Alexander, McKenzie County. (Cushing).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Reported damaging several hundred acres of grass in vicinity of Abbott, Colfax County. (PPC).

SOD WEBWORMS - KANSAS - Crambus spp. reported causing local, heavy damage to buffalo grass in Wichita County. (Gates). MICHIGAN - Crambus sp. larvae causing heavy damage to lawns in Ypsilanti Township, Washtenaw County; some lawns completely destroyed. (Erbe).

A BURROWING WEBWORM (Acrolophus sp.) - NORTH CAROLINA - Reported damaging lawn in Hyde County. Det. by D. A. Mount. (O'Neal).

A SKIPPER (Hylephila sp.) - TEXAS - Damaging populations, probably a species of this genus, present on Bermuda grass in Rains and Van Zandt Counties. (Berry, Brewer).

WHITE GRUBS - UTAH - Larvae infesting several lawns in Salt Lake City area, Salt Lake County; one lawn heavily damaged. (Burningham, Knowlton). WISCONSIN - Injury to lawns becoming more noticeable in Fond du Lac, Waupaca and Grant Counties. (Wis. Ins. Sur.).

CHINCH BUGS - GEORGIA - Infesting St. Augustine grass lawns in Spalding County. (Tippins). NEW HAMPSHIRE - Blissus leucopterus (chinch bug) damaging lawns and entering dwellings at Claremont and Meriden. Late nymphal stages most common. (Conklin, Sutherland). TEXAS - Blissus insularis continues of concern on St. Augustine grass lawns in southeastern quarter of State. (Texas Coop. Rpt.).

SPITTLEBUGS - SOUTH CAROLINA - Fairly heavy numbers breeding in closely cut grass at Clemson (Cochran); yellowing unmowed Coastal Bermuda grass. (Nettles et al., Aug. 3). GEORGIA - Continue moderate to heavy on Coastal Bermuda grass in Spalding County. (Tippins). Total of 172 adults taken in light trap in Tift County, compared with 220 previous week. This comparatively low level. Nymphs increasing in grass in county. (Beck).

A MARCH FLY (Dilophus orbatus) - CALIFORNIA - Heavy and breeding in lawns in San Diego, San Diego County. (Cal. Coop. Rpt.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Emergence complete in advanced areas; adults from first generation flying in southern counties. Percentage of plants infested by first-generation larvae in central area ranged 2-6 percent. No eggs yet noted. (Wis. Ins. Sur.). MINNESOTA - Pupating in central district. Number of infested plants per 100, by district: West central 9, northwest 40, central 6, southeast 2, east central 2. (Minn. Ins. Rpt.). SOUTH DAKOTA - Second-brood larvae expected latter part of August; controls probably not necessary until mid-August. (Jones). IOWA - Flights began July 16 at Ankeny; second-brood egg masses averaged 2 per 100 plants July 23. Treatment of high-value corn advised. (Iowa Ins. Inf., July 26). MISSOURI - Up to 100 percent of corn plants in several fields in northwest district infested with small larvae; egg laying continues. (Houser). Second-generation pupation 17 percent complete in southeast district and in New Madrid County. Second-generation forms averaged 17,862 (range 3,333-37,000) per acre in 23 fields; average of 6,000 borers per acre more than in 1964. (Keaster). INDIANA - Emergence continues heavy in Posey County; 707 taken in light trap July 24-30. Increasing generally throughout State; light trap counts by county as follows: Dubois 73, Jasper 171, St. Joseph 74 for period July 24-30. (Everly, Huber). MICHIGAN - First second-brood adults taken in blacklight traps. First-bood larvae caused relatively light damage to field corn in most growing areas. (Snow). MARYLAND - Heavy flights during last week of July indicate possible problem in late corn on lower Eastern Shore. (U. Md., Ent. Dept.). DELAWARE - Adult numbers remain high in blacklight trap collections in Sussex County; average over 20 per night. (Burbutis, Woodall).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSOURI - Larvae averaged 1,884 per acre of corn in 90 percent of fields checked in New Madrid County. Pupation of second generation 3 percent complete. (Keaster).

LESSER CORNSTALK BORER (Elasmopalpus lingnosellus) - GEORGIA - Moderate in peanuts in Decatur County. (Wheeler). ALABAMA - Larvae of this species and Diatraea crambidoides (southern cornstalk borer) ranged 1-4 per plant in small field planting of corn in Lee County; causing extensive damage. Second-generation larvae of D. crambidoides reaching full growth. (McQueen).

CORN EARWORM (Heliothis zea) - MARYLAND - Ear infestations increasing in sweet corn for processing on Eastern Shore. (U. Md., Ent. Dept.). DELAWARE - Adults average 5 per night in blacklight trap collections in Sussex County. (Burbutis, Woodall). ARKANSAS - Single larva found in 14 fields of soybeans checked in Jefferson, Arkansas, Monroe and Lee Counties. (Ark. Ins. Sur.). KANSAS - Larvae, mostly young, infesting 25 percent of corn ears in northeast district. (Brooks, Simpson, July 30). Infestation ranged 30-75 percent in corn examined in east central and southeast area fields. Populations largely young larvae. (Simpson). COLORADO - Trace numbers noted on tassels of corn in Weld County; not serious to August 5. (Urano, Jenkins). NEW MEXICO - Problem in tassels and

in ears of corn in Farmington-Aztec area, San Juan County. (Albert, July 30). Larvae causing minor to heavy damage to stalks, leaves and tassels of field and sweet corn in Sandoval area of Sandoval County and at Moriarty, Torrance County. (Heninger). UTAH - Moderately damaging to corn in Kanab-Orderville area, Kane County. (Knowlton).

FALL ARMYWORM (Spodoptera frugiperda) - DELAWARE - Larvae abundant and causing heavy feeding injury to young corn in one area of Kent County. (MacCreary). MARYLAND - Light to moderate, spotty infestations occurring in late corn in Frederick, Queen Annes and Wicomico Counties. (U. Md., Ent. Dept.). IOWA - Building up on late corn at Ankeny. (Iowa Ins. Inf., July 26). KANSAS - Reported damaging late corn in Lyon County. (Simpson). TEXAS - Occasional larvae appearing on lawns and golf courses in Brazos County. (Texas Coop. Rpt.). NEW MEXICO - Light to heavy larval populations damaging grain sorghum foliage in Deming area, Luna County. Some growers applying controls. (Coppock). Heavy damage to sweet corn noted in fields near Mesilla Park, Dona Ana County. (Watts).

ARMYWORM (Pseudaletia unipuncta) - DELAWARE - Adults continue to average over 20 per night in Sussex County blacklight trap collections. (Burbutis, Woodall). NEW MEXICO - Treatment applied to 400 acres of oats at La Cueva, Mora County, for control of what is probably this species. (Watts).

SORGHUM WEBWORM (Celama sorghiella) - SOUTH DAKOTA - Probably this species, heavily damaged field of sorgho (sorghum X Sudan grass) in Turner County. Chemical control necessary. (Kantack).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - NEBRASKA - Adults widespread in Boyd, Knox, Cedar and Dixon Counties; ranged 0-10 per corn silk. Averaged 7-8 per silk in some fields. (Rhine). MISSOURI - Adults ranged 0-35 per corn plant in fields in northwest and north central districts. Heavy silk feeding occurring in few fields; severe lodging (90-100 percent) observed in some fields. (Houser, Thomas). WISCONSIN - Adults continue to increase; considerable silk feeding observed in some fields of corn. Approximately 50 percent of adults pale, indicating peak not yet reached even in southern areas. Some pupae still present in soil. Fields in Dane and Iowa Counties severely lodged due to larval feeding earlier. (Wis. Ins. Sur.). ILLINOIS - Survey for resistance made in Mercer, Warrren and Henderson Counties; 10 fields selected at random in each county and collections made at rate of 10 minutes for single collector in each field. Beetles from all fields placed together and tested for resistance; however, in fields where populations heavy, separate collections of 400 beetles made and tested. Resistance was checked by use of micro-applicator and counting number of beetles killed in 24-hour period. Results were as follows: Mercer County County - cross section showed no resistance and no resistance found in 3 specific fields; Henderson County - cross section showed no resistance and no resistance evident in 2 specific fields; Warren County - cross section showed low resistance and no collection from specific field made in general survey. In 5 fields known to be in corn for many years and where soil insecticides applied for several years, 4 fields showed high resistance and 1 field showed medium resistance. (Ill. Ins. Rpt.). INDIANA - Adults very numerous in corn in west central and central sections; ranged 5-10 per ear. Kernels on 1-1.5 inches of tips of ears damaged in many instances. (Huber). OHIO - Adult infestations on field corn continue. Adults averaged 5 per plant in field near Washington Court House, Fayette County; up to 7 in individual ear silks noted on other plants in same field. (Rose). Reported infesting silks of corn in Butler and Preble Counties. (Petteys, Zorn, Blair). MARYLAND - First adults of season collected July 30 from corn silks in field at Westminster, Carroll County. (U. Md., Ent. Dept.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - COLORADO - Very serious larval damage reported to corn in Hudson area, Weld County. Further damage caused by emergence of 5-7 adults per plant and feeding on foliage. Controls recommended. (Urano, Jenkins). KANSAS - Adults averaged 5 per corn plant in Marshall County. (Brooks, Simpson, July 30). NEBRASKA - Adult populations moderate on corn throughout central section of State. (Rhine). SOUTH DAKOTA - Adults ranged

3-4 per corn silk in field south of Colome, Tripp County. (Jones). MISSOURI - Adults per plant, by county, ranged 0-3 in Platte, 0-7 in Caldwell and 0-20 in Grundy. Adults dispersing from infested fields into later corn. Light to heavy silk feeding observed due to presence of 0-10 adults per silk mass. Adults collected in Linn County. This is a new county record. (Houser, Thomas). ILLINOIS - Found for first time in Mercer, Warren and Henderson Counties. In Mercer County, averaged 32 adults per 100 plants in one field. Single adult taken in one field and 3 adults in another field in Henderson County and one adult taken in one field in Warren County. Only previous record in State was single specimen collected in Rock Island County in 1964. Adults from Mercer County were tested and found resistant. (Ill. Ins. Rpt.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - WISCONSIN - Adults more common and more widely dispersed in corn and alfalfa than D. longicornis (northern corn rootworm); leaf feeding on young corn more common than that of D. longicornis. (Wis. Ins. Sur.). NEBRASKA - Adults light on corn throughout central and north central districts. (Rhine). NORTH CAROLINA - Suspected of damaging corn in Caldwell County. (Falter, Mount).

CORN ROOTWORMS (Diabrotica spp.) - KANSAS - Late-stage larvae averaged 5 per corn plant in Brown County; severe root damage found, few adults present. (Brooks, Simpson, July 30). IOWA - Larvae averaged 1 and 6.5 per hill in treated plots and 4.25 and 6 per hill in untreated plots in Hamilton County; single adults of D. longicornis (northern corn rootworm) and D. virgifera (western corn rootworm) and several pupae found in soil. D. undecimpunctata howardi (southern corn rootworm) and D. virgifera adults collected from corn silks at Lamoni. D. longicornis and D. virgifera present in corn in Guthrie County. D. virgifera (85 percent) and D. undecimpunctata howardi (15 percent) adults eating off emerging silks of second-year corn in Warren County, July 22; controls applied in morning; no beetles seen in field by midafternoon. Corn silking through August may attract Diabrotica spp. adults from other fields; large numbers could prevent silk emergence. All late corn should be inspected; treatments made if silk feeding heavy. (Iowa Ins. Inf., July 26). MINNESOTA - D. longicornis and D. virgifera adults emerging in greater numbers; feeding on silks and tassels. Few second and third-stage larvae still feeding on roots; prepupae and pupae found in soil, indicating emergence not yet complete. Heavy rain and wind in central and east central districts August 2 resulted in sharp increase in lodging of rootworm damaged fields. Adults, mostly D. virgifera, in these districts ranged 0-6 per plant; over 20 found on some plants. Corn already pollinated need not be treated; late corn not pollinated may need controls if silks eaten off down to husk. Growers should watch corn to determine need for control; decision to control should be based on damage to silks on unpollinated corn rather than number of beetles per ear. (Minn. Ins. Rpt.).

SAP BEETLES - UTAH - Moderately numerous in some sweet corn in Kanab-Orderville area, Kane County. (Knowlton). MICHIGAN - Glischrochilus spp. adults numerous in aphid colonies near tassels of corn in many central area fields; reported on tomatoes in Berrien County. (Conrad). MARYLAND - Carpophilus lugubris (dusky sap beetle) increasing generally in ears and stalks of corn on Eastern Shore. (U. Md., Ent. Dept.). ALABAMA - C. dimidiatus (corn sap beetle) occurring in large numbers in ears of corn following damage by other insects, but not causing additional damage. (McQueen).

CEREAL LEAF BEETLE (Oulema melanopa) - INDIANA - Activity ceased; adults in aestivation. (Wilson). MICHIGAN - Field populations in southwest area approximately 100 percent inactive summer adults. (Ring).

RICE WEEVIL (Sitophilus oryzae) - ALABAMA - Large numbers of S. oryzae, Cathartus quadricollis (square-necked grain beetle) and Sathrobrota rileyi (pink scavenger caterpillar) occurring in ears of early corn, especially softer varieties, used for sweet corn in home gardens. (McQueen).

EUROPEAN CHAFER (Amphimallon majalis) - NEW YORK - Adult flight lighter but continuing. Severe damage to forage crops expected in some areas in spring of 1966. Larvae appearing in lawns in Niagara County. (N.Y. Wkly. Rpt., Aug. 2).

WIREWORMS - VIRGINIA - Damaging few fields of late corn in Carroll County. (Isakson, Tabor).

CORN LEAF APHID (Rhopalosiphum maidis) - OHIO - Populations appear on increase. Nearly 100 percent of corn plants in 2 fields in Clermont and Butler Counties infested. Aphids present on several regions of plants. Some parasitized or diseased individuals. Lacewings, syrphid fly larvae and lady beetles observed. R. maidis infestations also reported near Orrville and Kidron, Wayne County. (Barry, Rose). MICHIGAN - Adult and nymphal populations on corn vary tremendously in central area corn checked recently. High percentage of plants infested in some fields, but number of aphids per plant may be relatively low. Infestation often less than 25 percent in other fields, but populations as high as over 1,000 aphids per plant. Fields suffering from lack of moisture being injured most by aphids. (Janes). INDIANA - Some isolated heavy infestations found on corn in Tipton, Jackson, Starke and Pulaski Counties. Total infestations ranged 40-100 percent, with heavy to severe numbers on 5-30 percent of corn in these areas. Corn with tassels in or just emerging from whorls most heavily attacked. (Huber, White). ILLINOIS - Increasing on corn in western and central areas. A heavily infested field in La Salle County had 100 percent of plants infested with approximately 8-10 percent of plants having main stem in tassel and 1-2 top leaves newly covered by clustered aphids. (Ill. Ins. Rpt.). WISCONSIN - Populations continue high in most corn. Decrease evident in some individual fields, probably due to rain or dispersal to later corn. Building up rapidly in corn just tasselling. Small colonies noted on silks and husk tips of most corn in silk. Some evidence that fertilization may be impared by this activity. Some treatment underway in parts of Juneau and Sauk Counties. (Wis. Ins. Sur.). MINNESOTA - Populations remained about as reported in CEIR 15(32): 888. Predators, including lady beetles and lacewing larvae, increased and will aid in keeping aphids in check. (Minn. Ins. Rpt.).

NORTH DAKOTA - Numbers up to 200 per corn plant and up to 20 per sweep on millet noted. (Thomasson). SOUTH DAKOTA - Collections in Johnson-Taylor suction trap at Northern Grain Insects Lab. at Brookings indicate heavy flight occurred August 3-6. Trap 35 feet above ground. (Kieckhefer). KANSAS - Remains heavy on corn in northeast district. (Brooks, Simpson, July 30). Numerous in late corn and late milo in east central section. (Simpson). NEW MEXICO - Light to moderate populations feeding in whorls of field corn near Torreon, Torrance County. (Heninger). COLORADO - Light traces found on most corn in Weld County fields; also noted on sorghums. (Urano, Jenkins). WYOMING - Present in most corn checked throughout north central and northeastern areas. (Marks). UTAH - Severely damaged fields of barley on Levan Ridge, Juab County. (Thornley, Knowlton). IDAHO - Very abundant in fields of late barley in Carey, Picabo and Gannett areas, Blaine County. Some fields sprayed in these areas, other fields severely damaged before pest observed. Predator control also evident in some fields. (Eakin). Severe damage to late planted grain reported from several locations in southeast area of State. (Manis). MARYLAND - Heavy but very spotty in corn in fields checked in Frederick, Dorchester and Queen Annes Counties. (U. Md., Ent. Dept.). NEW HAMPSHIRE - Building up on sweet corn and Sudan-sorghum hybrids at Milford, Hillsboro County. (Sutherland, July 29).

ENGLISH GRAIN APHID (Macrosiphum avenae) - NORTH DAKOTA - Ranged up to 50 per sweep in oats. (Thomasson). SOUTH DAKOTA - Larger numbers than usual collected in Johnson-Taylor suction trap at Northern Grain Insect Lab. at Brookings; trap 35 feet above ground. Tenfold increase noted July 28-29, indicating heavy flight. (Kieckhefer).

GREENBUG (Schizaphis graminum) - NORTH DAKOTA - Ranged up to 50 per sweep in oats. (Thomasson).

STINK BUGS - NEW MEXICO - Occasional heavy infestation requiring treatment found on grain sorghum in Luna County fields. (Wall).

SORGHUM MIDGE (Contarinia sorghicola) - NEW MEXICO - Threatening populations found in fields of grain sorghum near Lovington, Lea County. (Gilstrap).

WHEAT MIDGE (Sitodiplosis mosellana) - MINNESOTA - Reported damaging wheat in Roseau County. (Minn. Ins. Rpt.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - COLORADO - Very light on corn in some fields in Prowers, Bent and Otero Counties. Slightly heavier on lower leaves in some Crowley County fields, but damage negligible and outlook for future damage in all areas continues small. Hot, dry weather necessary for rapid buildup. (Schweissing). No problem reported on corn in Weld County. (Urano, Jenkins).

BANKS GRASS MITE (Oligonychus pratensis) - NEBRASKA - Small numbers found on corn in most fields in Scotts Bluff County. Colonies confined to lower leaves. No controls recommended. (Hagen).

SPOTTED ALFALFA APHID (Therioaphis maculata) - INDIANA - Ranged 3-200 per sweep on alfalfa in 2 localized areas in Floyd and Harrison Counties; higher counts found in well-drained, drier portions of fields. Alates averaged 15 percent of total sampled. (Matthew). Ranged up to 15 per sweep in Fulton, Kosciusko and Elkhart Counties week of July 23. Trace numbers now found in these areas due to recent rains. (Huber). WISCONSIN - Populations decreased; approximately half those of previous week in many instances. Highest count averaged 100 per sweep; ranged 1 per 10 sweeps to 30 per sweep in most alfalfa in southern counties. (Wis. Ins. Sur.). NEBRASKA - Up to 10 per sweep in alfalfa found in Howard County. (Manglitz, Kindler). Averaged less than 1 per sweep in Lancaster County. (Stevens, Schalk). KANSAS - Ranged 300-400 per 100 sweeps in alfalfa in Montgomery, Elk, Cowley, Sumner and Sedgwick Counties. Counts much lighter, 50 per 100 sweeps, in Harvey and Marion Counties. (Simpson). OKLAHOMA - Reported moderate in alfalfa in Kingfisher County; averaged 120 per 10 sweeps in Tillman County and ranged 25-60 per 10 sweeps in Alfalfa and Harper Counties. Some spraying underway in Kingfisher County. (Okla. Coop. Sur.). COLORADO - Present on alfalfa in all areas of Prowers, Bent, Otero and Crowley Counties. Decreases rapid in some fields; range 10-2,500 per 100 sweeps. Heaviest in Prowers County, particularly in thin stands. (Schweissing). Ranged 2-5 per 100 sweeps in Montrose County; first of season. (Bulla). NEW MEXICO - Light in Sandoval and Torrance County alfalfa and light to moderate in Valencia and Bernalillo Counties. (Heninger).

PEA APHID (Acyrthosiphon pisum) - UTAH - Moderate in some alfalfa in Panguitch-Hatch area, Garfield County. (Knowlton). WYOMING - Light to moderate in alfalfa in north central and northeastern counties. Adults and nymphs per 100 sweeps as follows: 225-350 in Johnson and Sheridan Counties; 185-300 in Campbell, Crook and Weston Counties; 275-400 in Niobrara and Converse Counties. (Marks). COLORADO - Decreasing on alfalfa in all areas of Prowers, Bent, Otero and Crowley Counties; range 10-300 per 100 sweeps. Predators decreased in numbers. (Schweissing). Numbers moderate on alfalfa in Montrose and Delta Counties, with occasional high population in some Mesa County fields. (Bulla). High degree of parasitism by Aphidius smithi (a braconid) noted in areas where releases made in 1962. Parasite recovery good. (Anderson, Merlino, Bulla). NEW MEXICO - Light to very light in alfalfa checked in Bluewater and Belen areas, Valencia County; Sandoval, Sandoval County; Moriarty, Torrance County; and Albuquerque, Bernalillo County. (Heninger). KANSAS - Averaged 30 per 5 sweeps in Nemaha County alfalfa. (Brooks, Simpson, July 30). Very light throughout southeast, although present in all fields examined. (Simpson). SOUTH DAKOTA - Averaged 2,190 per 100 sweeps of second-crop alfalfa held for seed at Brookings, Brookings County. (Walstrom). NORTH DAKOTA - Ranged up to 75 per sweep on alfalfa. (Thomasson). WISCONSIN - Little change noted since report in CEIR 15(32):887. Counts continue sporadic; range 0 to over 100 per sweep. (Wis. Ins. Sur.). INDIANA - Ranged 5-45 per sweep in southern two-thirds of State and 3 per 5 sweeps to 25 per sweep in northern third. (Huber, White). MICHIGAN - Adults and nymphs ranged 5-24 (averaged 12) per sweep in alfalfa in 5 Ingham County fields

August 3. (Dowdy). OHIO - Averaged 3-6 per sweep on alfalfa in Fayette and Butler Counties. (Rose). MASSACHUSETTS - Increasing in western area fields where drought not a factor. (Shaw).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - SOUTH DAKOTA - Averaged 230 per 100 sweeps in second-crop alfalfa held for seed at Brookings, Brookings County. (Walstrom). WISCONSIN - Nymphs and adults continue numerous in alfalfa in many southern area fields; range as high as 25 per sweep. (Wis. Ins. Sur.). INDIANA - Decreasing in alfalfa throughout State. Adults average 3 per 5 sweeps in southern half of State and 1-2 per sweep in northern half. (Huber, White). MICHIGAN - Adults and nymphs on alfalfa in 5 Ingham County fields ranged 2-24 (average 8.6) per sweep August 3. (Dowdy). DELAWARE - Adults common in alfalfa in several areas of State. (Burbutis, Woodall).

TARNISHED PLANT BUG (Lygus lineolaris) - KANSAS - Averaged 25 per 25 sweeps of alfalfa in Nemaha County. (Brooks, Simpson, July 30). INDIANA - Adults ranged 1-3 per sweep in alfalfa in northern two-thirds of State. (Huber, White). MARYLAND - Adults common in alfalfa and soybeans in all sections. (U. Md., Ent. Dept.).

LYGUS BUGS (Lygus spp.) - NEVADA - Averaged 15 per sweep in fields of alfalfa for seed in Panaca, Lincoln County. Building up in seed fields, especially in margins, in Orovada, Humboldt County. (Lauderdale). ARIZONA - Nymphs heavy in alfalfa in Yuma, Maricopa and Pinal Counties; range 50-400 per 100 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Very abundant on alfalfa in Luna County. (Coppock). Range 5-8 per 25 sweeps in Chaves County alfalfa. (Kloepfer). Counts per 25 sweeps in alfalfa checked, were as follows: 5-10 at Moriarty, Torrance County; 5-20 in Sandoval County; 5-13 in Bernalillo County; 12-20 in Belen area, Valencia County. (Heninger). WYOMING - Adults and nymphs remain light to moderate in alfalfa in north central and northeastern counties. Ranged 25-60 per 100 sweeps in Johnson, Sheridan, Campbell, Crook, Weston, Niobrara and Converse Counties. (Marks).

STINK BUGS - MISSOURI - In Boone County soybeans, 117 Acrosternum hilare (green stink bug) adults taken in 150 feet of row; nymphs and eggs estimated at 500 per 100 feet of row August 3. Of egg masses observed, 50 percent had hatched. (Foster). NEVADA - Chlorochroa sayi (Say stink bug) averaged 1 per sweep in alfalfa seed fields in Panaca, Lincoln County. (Lauderdale).

POTATO LEAFHOPPER (Empoasca fabae) - MASSACHUSETTS - Extensive yellowing appearing in many fields where populations high in western area. (Shaw). NEW YORK - Causing very severe damage to alfalfa in lower Dutchess County. Ranged 20-50 per sweep in field near Fishkill. (N.Y. Wkly. Rpt., Aug. 2). MARYLAND - Continuing problem on alfalfa in all sections. Ranged 2-50 per sweep on Frederick County alfalfa; light to moderate on soybeans in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.). WISCONSIN - Counts remain high in older alfalfa in southern counties; averaged over 100 per sweep in certain fields. (Wis. Ins. Sur.). IOWA - May cause serious damage to alfalfa in dry areas. (Iowa Ins. Inf., July 26). NEBRASKA - Averaged 1 per sweep in field of alfalfa in Howard County; damage evident. Populations lower in other fields observed; no damage noted. (Manglitz, Kindler). SOUTH DAKOTA - Averaged 20 per 100 sweeps in second-crop alfalfa held for seed at Brookings, Brookings County. (Walstrom).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Increasing generally in alfalfa in Maricopa, Pinal, Pima, Yuma and Graham Counties. Counts as high as 800 per 100 sweeps in many fields. Girdling of stems causing serious damage in some areas. (Ariz. Coop. Sur.). NEW MEXICO - Adults ranged 0-3 per 25 sweeps in alfalfa checked near Belen, Valencia County. (Heninger). ARKANSAS - Counts averaged 0.9 adult and 3.9 nymphs per 30 feet of row in 14 fields of soybeans checked in Jefferson, Arkansas, Monroe and Lee Counties. Counts highest in Jefferson County. (Ark. Ins. Sur.).

ALFALFA WEEVIL (Hypera postica) - VERMONT - Larvae collected at following localities: Williston, Chittenden County; Fairlee, Randolph, Braintree, Brookfield and Williamstown, Orange County; Barre, Berlin, Middlesex and Northfield, Washington County; adults found only at East Brookfield, Orange County. Hay crops statewide range 35-80 percent of normal yield, depending on location. Loss most serious in Addison and Rutland Counties. Orange, Washington and Addison Counties new county records. (MacCollom, Aug. 2). MASSACHUSETTS - Small numbers of old and young adults present in western area fields. Tetrastichus incertus (a eulophid wasp) present in most fields surveyed; parasitism of H. postica ranged up to 90 percent. (Shaw). NEW YORK - Becoming scarce and most larvae now found in Columbia, Greene, Dutchess and Orange Counties now parasitized. (N.Y. Wkly. Rpt., Aug. 2). MARYLAND - Light adult and larval numbers present in alfalfa checked in Frederick and Prince Georges Counties. (U. Md., Ent. Dept.). INDIANA - Trace numbers of adults (3 per 300 sweeps) noted on alfalfa in Harrison and Floyd Counties. (Matthew). NEW MEXICO - Adults ranged 0-3 and larvae 0-4 per 25 sweeps in alfalfa checked near Sandoval, Sandoval County. (Heninger). UTAH - All larval stages still present in alfalfa in northern part of State, although most damage now minor. Some second-crop alfalfa not yet beginning to grow. (Davis, Knowlton).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - INDIANA - Adults averaged 2-3 per sweep in some alfalfa in Floyd and Harrison Counties. (Matthew).

A JAPANESE WEEVIL (Calomycterus setarius) - MASSACHUSETTS - High population noted in one field of forage in Franklin County. (Shaw).

A SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - NEW MEXICO - Adults ranged 0-6 per 25 sweeps in alfalfa checked in Bernalillo County and 2-3 per 25 sweeps in alfalfa near Belen, Valencia County. (Heninger).

BEAN LEAF BEETLE (Cerotoma trifurcata) - OHIO - Extensive adult feeding damage noted on leaves of soybeans in Fayette County field. Plants approximately 3 feet high. (Rose). ARKANSAS - Averaged 2.5 per 30 feet of row in 14 fields of soybeans checked in Jefferson, Arkansas, Monroe and Lee Counties. (Ark. Ins. Sur.). MARYLAND - Adults light to moderate on soybeans in Queen Annes and Worcester Counties. (U. Md., Ent. Dept.).

FLEA BEETLES - NEW MEXICO - A metallic green species appearing in larger numbers in alfalfa and small grains in northern part of State. Ranged 0-8 per 25 sweeps in alfalfa checked in Valencia and Bernalillo Counties. (Heninger). TEXAS - Damaging 8 to 10-inch milo in Burleson County. Controls anticipated. (Moore). KANSAS - Moderate numbers found on alfalfa in Montgomery County; averaged 200 per 100 sweeps. (Simpson). OHIO - Single infestations of corn reported in each of Miami and Hardin Counties. (Arnold, Blair).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Moderate on large acreage of soybeans near Public Landing, Worcester County. (U. Md., Ent. Dept.). UTAH - Damaging alfalfa at Moab, Grand County. (Roberts).

BLISTER BEETLES (Epicauta spp.) - NORTH DAKOTA - E. fabricii (ash-gray blister beetle) and E. pennsylvanica (black blister beetle) ranged up to 4 per sweep in alfalfa near Valley City, Barnes County. (Thomasson). WISCONSIN - E. pennsylvanica very common in scattered fields of alfalfa in southwest; as high as 6 per sweep in one instance. Some light feeding on alfalfa blossoms noted. E. pestifera (margined blister beetle) and Epicauta sp. (a striped species) adults much less common. (Wis. Ins. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - NEVADA - Adults heavy in alfalfa near Montello, Elko County. (Earnist). NEW MEXICO - Adults abundant in most alfalfa in Sandoval, Valencia and Bernalillo Counties. Larvae per 25 sweeps ranged 1-4 in Sandoval area (Sandoval County), 2-10 in Belen area (Valencia County) and 0-7 in Albuquerque area (Bernalillo County). (Heninger). INDIANA - Increasing

on alfalfa in southern half of State; larvae average 2-3 per 5 sweeps. (Huber). MARYLAND - Numbers light on alfalfa checked in Frederick County. (U. Md., Ent. Dept.).

GREEN CLOVERWORM (Plathypena scabra) - KANSAS - Averaged 40 per 100 sweeps in Nemaha County alfalfa. (Brooks, Simpson, July 30). MICHIGAN - Larvae averaged 3.4 per 10 sweeps in alfalfa in 5 fields checked in Ingham County August 3. (Janes). MARYLAND - Larvae averaged approximately 1 per sweep on alfalfa in Frederick County. (U. Md., Ent. Dept.).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - UTAH - Damaging alfalfa south of Howell, Box Elder County. (Nye, Knowlton). Developed serious populations in many parts of Millard, Box Elder and Cache Counties. Some movement from alfalfa occurring as hay crop removed. (Knowlton, Davis, Hall). IDAHO - Full-grown larvae migrating from maturing lentils and weedy areas into home gardens and becoming nuisance around homes. Pupation rapid. Control of larvae about homes with usually effective insecticides proved ineffective in some instances. (Manis).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Various cutworms, but mainly P. saucia, continue heavy in most forage crops in western part of State. Many growers using controls but noticeable increase in mortality due to parasites and diseases evident. Second-generation adults appearing in large numbers in light traps. (Larson).

RED-NECKED PEANUTWORM (Stegasta bosqueela) - GEORGIA - Moderate to heavy in peanuts in southern part of State. (French, Morgan). OKLAHOMA - Moderate in peanuts in Bryan County. (Okla. Coop. Sur.).

CUTWORMS - GEORGIA - These and unspecified loopers range light to moderate on peanuts in Terrell County (Morgan); loopers range light to moderate on peanuts in Randolph County (Trussell).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Reported moderate in alfalfa in Kay and Tillman Counties; light in northwest area. (Okla. Coop. Sur.). KANSAS - L. similalis (garden webworm) very heavy in sorghum in Mitchell County; pigweed being destroyed, damage to sorghum limited to lower leaves. Adults extremely abundant. (Gates, Simpson, July 30). NEBRASKA - L. commixtalis (alfalfa webworm) caused light but general damage in field of alfalfa in Howard County. (Manglitz, Kindler).

THRIPS - NEW MEXICO - Mostly light to moderate infestations found in alfalfa in Valencia, Sandoval, Torrance and Bernalillo Counties. (Heninger). Populations, 90 percent Chirothrips falsus and 10 percent C. mexicanus, heavy on several species of grasses at Los Lunas, Valencia County. (Watts). UTAH - Unspecified species extremely numerous in blossoming alfalfa in many fields in eastern and western Millard County seed-growing areas. (Knowlton).

ALFALFA SEED CHALCID (Bruchophagus roddi) - CALIFORNIA - Increasing in many fields of seed alfalfa in Imperial County. Early seed not severely damaged but heavy damage expected to late seed. Populations usually peak in mid-August at this location. (J. Campbell, Ext. Ser.).

SPIDER MITES (Tetranychus spp.) - GEORGIA - Moderate on peanuts in Miller County (Henning) and Jefferson County (Eubank). MARYLAND - Building up to damaging numbers in several fields of soybeans in Dorchester, Queen Annes and Wicomico Counties. (U. Md., Ent. Dept.). NEW JERSEY - T. telarius (two-spotted spider spider mite) infestations noted on sweet corn in central and southern parts of State. (Ins.-Dis. Newsltr.). OKLAHOMA - Tetranychus spp. reported damaging corn in Texas County. (Okla. Coop. Sur.).

PAINTED LADY (Vanessa cardui) - NORTH DAKOTA - Larval infestations noted in fields of sunflower in eastern area. Ranged 2-3 per plant near Hatton. (Thomasson).

TARNISHED PLANT BUG (Lygus lineolaris) - NEW YORK - This species and unspecified aphids attacking 40-acre sunflower planting in Niagara County. (N.Y. Wkly. Rpt., Aug. 2).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW MEXICO - Problem in pear and apple trees at Mountainair, Torrance County. Very light damage to treated trees. (Heninger). WISCONSIN - Adults continue flights; larvae 50 percent grown in Madison. (Wis. Ins. Sur.). MICHIGAN - Second-brood moths emerging at slow rate on Lower Peninsula; cool night temperature depressed activity. (Conrad, Austin). OHIO - Larvae 5 mm. long common in apples in orchard near Higginsport, Brown County. (Rose). MARYLAND - Second-brood larvae abundant in several unsprayed apple orchards in Allegany and Washington Counties. (U. Md., Ent. Dept.). NEW YORK - Flight of summer-brood adults heavy July 24-25 in eastern section. (N.Y. Wkly. Rpt., Aug. 2).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - MICHIGAN - Larval injury to terminal peach growth low in Berrien County orchards; no entries in fruit noted. (Conrad). INDIANA - Adults heaviest in bait traps May 1-10 (410), June 1-10 (135), July 21-31 (159) and August 1-4 (108) in Vincennes area, Knox County. (Cleveland).

A CLEARWING MOTH (Sanninoidea sp.) - NEW MEXICO - Serious problem on peaches in several orchards in Valencia and Bernalillo Counties. Actually killing peach trees in some orchards near Tome, Valencia County. (Heninger).

PEACH TREE BORER (Sanninoidea exitiosa) - OKLAHOMA - Moderate in peach trees in Murray County. (Okla. Coop. Sur.).

APPLE-AND-THORN SKELETONIZER (Anthophila pariana) - OREGON - Second-generation larvae heavy on unsprayed apple trees throughout Willamette Valley. Damage in Lane County more noticeable than in other counties. (Larson).

A PHYCITID MOTH (Acrobasis tricolorella) - MICHIGAN - Larvae much more numerous on cherries in northwestern Lower Peninsula this season than in other recent years. (Wooley).

PEACH TWIG BORER (Anarsia lineatella) - COLORADO - Adults taken continuously in sex attractant traps in Mesa County over 2 week period. Highs of 27 per 5 traps taken in Palisade and Orchard Mesa areas. (Bulla).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - INDIANA - Some isolated injury to early apples noted in Knox County area. (Cleveland).

UNSPOTTED TENTIFORM LEAF MINER (Callisto geminatella) - OHIO - Very common on apple trees throughout orchard in Brown County. Counts of 2-3 mines per leaf not uncommon. (Rose)

APPLE MAGGOT (Rhagoletis pomonella) - MINNESOTA - Adults continue active; protective sprays essential. (Minn. Ins. Rpt.). WISCONSIN - Adult activity continues; many adults in Waupaca County. Additional 27 adults caught in ammonia bait trap in crab apple July 25-August 2. Only 3 caught in another location; peak may be passed in Dane County. (Wis. Ins. Sur.). MICHIGAN - Adult population continues high in unsprayed orchards; 1,030 adults taken during week ending August 2 on 19 experimental sticky traps in abandoned Oakland County orchard. Control good in most commercial orchards. (Austin, Conrad). OHIO - Pupating near Wooster, Wayne County. (Still). MARYLAND - Adult emergence observed July 30 at Hancock, Washington County. (U. Md., Ent. Dept.). NEW JERSEY - May become serious on apples in northern section during mid-August. (Ins.-Dis. Newsltr.). NEW YORK - Adult emergence reached second peak in eastern area July 17 and continues heavy; males now outnumber females. Peak emergence

July 16 in Clinton County and July 30-31 in Monroe County; ratio of males to females about even. (N.Y. Wkly. Rpt., Aug. 2).

A CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) - CALIFORNIA - First larvae of 1965 season recovered at Hilts, Siskiyou County, during fruit processing surveys. This find represents first of its kind, although adults were taken on numerous occasions. Fruit sampling and trapping surveys continue in other part of county and in Humboldt, Trinity and Shasta Counties. Adults recovered in Mount Shasta area. (Cal. Coop. Rpt.).

PEAR PSYLLA (Psylla pyricola) - OHIO - Up to 6-8 per leaf on 3 pear trees in orchard near Higginsport, Brown County. Sooty black fungus growing on honeydew caused leaf spots. (Rose).

APPLE APHID (Aphis pomi) - MICHIGAN - Adults and nymphs continue high in Berrien County and southeastern orchards; leaf curling and honeydew apparent. (Austin, Conrad).

PEAR-SLUG (Caliroa cerasi) - UTAH - Caused some severe injury in home cherry orchards in Salt Lake County. (Knowlton).

ORCHARD MITES - OREGON - Mites, predominantly Panonychus ulmi (European red mite) and Tetranychus telarius (two-spotted spider mite), continue heavy on pears, apples and prunes throughout State. (Larson). COLORADO - P. ulmi found on deciduous fruit trees in Rogers Mesa, Cedaredge and Paonia areas, Delta County. (Quist, Bulla). MICHIGAN - High populations of P. ulmi on many apple, plum and pear orchards in Berrien County; control difficult. T. telarius low in Berrien County fruits to date. (Conrad). INDIANA - P. ulmi ranged 25-30 per leaf in some isolated areas on apples; averaged less than one per leaf in well-kept orchards. T. telarius appearing on apples in isolated areas of Knox County; ranged up to 14 per leaf. (Cleveland). OHIO - Populations of P. ulmi continue high, especially where controls improperly applied. Averaged 27 per leaf on Red Delicious apple leaves in Highland County orchard; similar in Brown County. (Rose). MARYLAND - P. ulmi and Tetranychus spp. causing conspicuous leaf bronzing in some orchards in Hancock area, Washington County. (U. Md., Ent. Dept.). DELAWARE - T. telarius and P. ulmi present on peaches locally in Kent County. (Mellott, MacCreary). NEW JERSEY - P. ulmi and T. telarius becoming problems on apples in several areas of State; controls recommended. (Ins.-Dis. Newsltr.). NEW YORK - Red species still troublesome in many blocks in Clinton County but activity slowed due to cool temperatures in Monroe County. (N.Y. Wkly. Rpt., Aug. 2).

GREEN JUNE BEETLE (Cotinis nitida) - OKLAHOMA - Continues to damage ripening fruit in many areas. (Okla. Coop. Sur.). ALABAMA - Considerable flight of adults noted around fruit and other trees in central and southern areas. (Balsbaugh et al.).

JAPANESE BEETLE (Popillia japonica) - NEW JERSEY - Troublesome in blueberry cutting beds. (Ins.-Dis. Newsltr.). GEORGIA - Moderate on peach tree in Fulton County. (Hurt).

FALL WEBWORM (Hyphantria cunea) - KANSAS - Abundant in trees in southeast district. Defoliation could affect development of pecans and walnuts. (Gates, Brooks). OKLAHOMA - Infestations continue heavy on pecan and other trees. (Okla. Coop. Sur.). ALABAMA - Rather heavy and damaging on pecan trees in Dale and Houston Counties. (Estes, Roney).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Adults emerged in Lincoln and Pottawatomie Counties due to heavy rain; controls underway. Still light in Okfuskee and Creek Counties. Controls not necessary until adequate rain causes adult emergence. (Okla. Coop. Sur.). KANSAS - Single specimen found in Montgomery County; first of season. (Gates, July 30).

BLACK PECAN APHID (Melanocallis caryaefoliae) - CALIFORNIA - Medium on pecan trees in Los Banos, Merced County. This is a new county record. (Cal. Coop. Rpt.).

FILBERT APHID (Myzocallis coryli) - OREGON - Much reduced in western filbert orchards since beginning of high temperatures in late July. (Detering).

PHYLLOXERAS (Phylloxera spp.) - VIRGINIA - Galls heavy on leaves and twigs of walnut trees in yards at Palmyra, Fluvanna County, and at Richmond. (Amos, Andrews, Watts).

PECAN SPITTLEBUG (Clastoptera achatina) - ALABAMA - Damaging pecans in Morgan County. (Rutledge).

WALNUT HUSK FLY (Rhagoletis suavis) - DELAWARE - Adults at peak on English walnuts locally in Kent County. (Kelsey).

GRAPE BERRY MOTH (Paralobesia viteana) - MICHIGAN - Second-brood larvae common in berries in unsprayed Berrien County vineyards; very few in well-kept vineyards. (Conrad).

GRAPE LEAF FOLDER (Desmia funeralis) - CALIFORNIA - Larval infestations appearing in some muscat vineyards in Fresno County. (Cal. Coop. Rpt.).

LEAF ROLLERS - NEW JERSEY - Troublesome in blueberry cutting beds. (Ins.-Dis. Newsltr.).

CRANBERRY FRUITWORM (Acrobasis vaccinii) - MASSACHUSETTS - Flight past peak in southeast area, but moths still active on warm nights. (Tomlinson, July 30).

BLACK-HEADED FIREWORM (Rhopobota naevana) - NEW JERSEY - Active on some cranberry bogs. (Ins.-Dis. Newsltr.).

GRAPE PHYLLOXERA (Phylloxera vitifoliae) - VIRGINIA - Infesting grape leaves at farm in Prince George County. (Amos, Harris).

CALIFORNIA RED SCALE (Aonidiella aurantii) - ARIZONA - Found in nursery in Phoenix area; eradication procedures underway. (Ariz. Coop. Sur.).

ORANGE TORTRIX (Argyrotaenia citrana) - CALIFORNIA - Larvae medium in orange fruit locally in Redlands, San Bernardino County. Light in San Diego, San Diego County. (Cal. Coop, Rpt.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Heavy and continues damaging to fruit of untreated trees in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

A HALICTID BEE (Augochloropsis cuprea) - FLORIDA - Adults taken on fruit of sour orange at Tampa, Hillsborough County. (Bacon, July 16).

A MUSCID FLY (Atherigona orientalis) - FLORIDA - Adults taken on fruit of sour orange in Miami, Dade County. (Swanson, July 23).

TRUCK CROP INSECTS

HORNWORMS (Protoparce spp.) - DELAWARE - Adults averaged 8 per night during past week in blacklight traps in Sussex County. Some larvae on tomatoes. (Burbutis, Woodall). MARYLAND - Eggs light on peppers near Cedartown, Worchester County. (U. Md., Ent. Dept.).

BLACK CUTWORM (Agrotis ipsilon) - WISCONSIN - Adult flights nearly subsided in Dane County. Flights probably reaching peak in central section and a few adults noted in potato fields in Waushara County. Larvae may again go from weeds to potato tubers. (Wis. Ins. Sur.).

TOMATO PINWORM (Keiferia lycopersicella) - CALIFORNIA - Larvae heavy in tomato fruit in Ripley, Riverside County. (Cal. Coop. Rpt.).

ZEBRA CATERPILLAR (Ceramica picta) - OREGON - Light in potato fields in Deschutes and Jefferson Counties. (Morrison).

Aphids on Potatoes in Maine - Total population increased 1.6 times during past week on untreated potatoes on Aroostook Farm at Presque Isle, Aroostook County. Myzus persicae (green peach aphid) increased 5.3 times and Macrosiphum euphorbiae (potato aphid) doubled. Percent of plants infested less than doubled during week. Average of 3.3 aphids, all species, found on 3 leaves per plant with 75 percent of plants infested. Fungus-killed M. euphorbiae increased sharply and first dead, diseased M. persicae found. Populations in commercial potato plantings in central and southern Aroostook County vary from very small to moderate depending on treatment or lack of it. Virtually none found where systemics were applied in planting furrow. No aphids diseased, very few parasitized. Composition of population similar on Aroostook Farm and in commercial fields. M. euphorbiae predominates followed by M. persicae, Aphis nasturtii (buckthorn aphid) and Acyrthosiphon solani (foxglove aphid). (Shands, et al.).

POTATO PSYLLID (Paratrioza cockerelli) - COLORADO - Trace numbers general on potatoes in late district of Weld County. Controls applied. (Urano, Jenkins, Simpson). Adults vary 0-4 per 100 sweeps on tomatoes in Arkansas Valley. (Schweissing).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - MARYLAND - Larvae light on commercial tomatoes at Public Landing, Worchester County. (U. Md., Ent. Dept.). IOWA - Larvae on potatoes at Shenandoah two-thirds grown July 21. (Iowa Ins. Inf.). COLORADO - Trace numbers general on potatoes in late district of Weld County. Controls applied. Early district harvesting potatoes. (Urano, Jenkins, Simpson).

MARGINED BLISTER BEETLE (Epicauta pestifera) - GEORGIA - Heavy on tomatoes in Rockdale County. (Bigham).

MEXICAN BEAN BEETLE (Epilachna varivestis) - COLORADO - Damage ranges 10-60 percent in many bean fields in Otero and Pueblo Counties. Many larvae pupating. Controls underway. (Schweissing). Adult and larval numbers warrant control in Weld and Larimer Counties. (Urano, Jenkins, Daniels). Larvae abundant in bean fields in Olathe area, Montrose County, where controls not used. (Bulla). IDAHO - Found in Boise again this year. Joint State-county effort to eradicate infestation underway. (PPC).

COWPEA CURCULIO (Chalcodermus aeneus) - ALABAMA - Adults numerous on green pea pods in gardens in central and southern sections, especially Lee County. (McQueen).

COWPEA WEEVIL (Callosobruchus maculatus) - ALABAMA - Light to medium on maturing field peas in gardens in central and southern sections, especially Lee County. (McQueen).

LEAF-FOOTED BUG (Leptoglossus phyllopus) - ALABAMA - This species and stink bugs light to medium on field peas in home gardens in central and south sections. (McQueen).

GREEN CLOVERWORM (Plathypena scabra) - MICHIGAN - Larval populations generally low in bean fields in Saginaw Valley area; few fields need controls. Counts averaged one larva per 10 feet of row in Bay County July 30. (Janes).

MELON APHID (Aphis gossypii) - DELAWARE - Present to common on cantaloup, watermelon and pumpkin-squash in areas of Sussex County. (Burbutis, Woodall).

SQUASH VINE BORER (Melittia cucurbitae) - MARYLAND - Injured large squash planting near Easton, Talbot County. (U. Md., Ent. Dept.).

PICKLEWORM (Diaphania nitidalis) - NORTH CAROLINA - Heavy damage to large field of pumpkins in Spalding County. (Dupree).

SQUASH BUG (Anasa tristis) - DELAWARE - Nymphs and eggs common on squash in one area of Sussex County. (Burbutis, Woodall). OKLAHOMA - Moderate in home gardens in Hughes County. (Okla. Coop. Sur.). UTAH - Particularly damaging in Escalante area, Garfield County. (Lindsay, Knowlton).

SQUASH BEETLE (Epilachna borealis) - NORTH CAROLINA - Reported feeding on cucumbers in Wayne County. (Baker, Mount).

CUCUMBER BEETLES - Diabrotica undecimpunctata howardi (spotted cucumber beetle) and Acalymma vittatum (striped cucumber beetle) heavily damaged squash blossoms in Spalding County. (Dupree).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - Infestations appearing in all untreated fields in Erie County. (N.Y. Wkly. Rpt., Aug. 2). MARYLAND - Moderate on garden cabbage and collards at Love Point, Queen Annes County. (U. Md., Ent. Dept.). IOWA - Adults abundant and young larvae present at Shenandoah. (Iowa Ins. Inf., July 26). ALABAMA - Present on turnips in Lee County garden. (McQueen).

CROSS-STRIPED CABBAGEWORM (Evergestis rimosalis) - ALABAMA - Larvae heavy and completely destroying turnips in Lee County garden. (McQueen).

CABBAGE MAGGOT (Hylemya brassicae) - NEW JERSEY - Increasing on cole crops throughout State. (Ins.-Dis. Newsltr.). NEW YORK - About 25 percent of plants killed in 2 July-planted cauliflower fields in Erie County. (N.Y. Wkly. Rpt., Aug. 2).

APHIDS - NEW YORK - Brevicoryne brassicae (cabbage aphid) appearing in all untreated fields in Erie County. (N.Y. Wkly. Rpt., Aug. 2). MARYLAND - Undetermined species heavy on garden kale and turnips at locations in Queen Annes County. (U. Md., Ent. Dept.).

BEET LEAFHOPPER (Circulifer tenellus) - COLORADO - Averaged 1 per 20 sweeps on sugar beets throughout Arkansas Valley. (Schweissing). UTAH - Curly-top disease less than one percent in canning tomatoes in northern section. (Dorst). CALIFORNIA - Curly-top disease damage remains well below one percent in tomato fields in Salinas Valley. High of 324 C. tenellus per 10 sweeps found on Russian-thistle in bed of Santa Ana River, Riverside County, but little curly-top damage found in fields in area. Russian-thistle elimination continued on rangelands west of Tracy, San Joaquin County, to Coalinga area, Fresno County. (Cal. Coop. Rpt.).

WEBWORMS (Loxostege spp.) - NEBRASKA - Second generation defoliating some sugar beets. Some controls applied. (Hagen). COLORADO - Trace numbers of L. sticticalis (beet webworm) on sugar beets in western section. No controls needed to date. (Bulla).

ONION THRIPS (Thrips tabaci) - NEBRASKA - Causing considerable damage to some onion plantings in panhandle area. Controls underway. (Hagen).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - MARYLAND - Light on new growth of sweetpotatoes near Longridge, Worchester County. (U. Md., Ent. Dept.).

LOOPERS (Trichoplusia spp.) - NORTH CAROLINA - Causing light to severe damage on 50 percent of sweetpotato leaves in Robeson County field. (Jones).

WHITE GRUBS - WISCONSIN - High numbers damaging strawberry plants and other garden plants in parts of Fond du Lac, Waupaca and Grant Counties. (Wis. Ins. Sur.).

MITES - NEW JERSEY - Again increasing on strawberries and raspberries, especially in few spots in south section. (Ins.-Dis. Newsltr.).

EUROPEAN FRUIT LACANIUM (Lecanium corni) - NEW HAMPSHIRE - Old scales and few crawlers noted on old blackberry canes at Tilton. (Conklin).

A MINT FLEA BEETLE (Longitarsus waterhousei)- IDAHO - Second treatment required to reduce adult population in mint field in Owyhee County. (Waters). OREGON - Light in 9 mint fields surveyed in Malheur County (Gray). Generally light in Linn County mint. (Morrison).

BEET ARMYWORM (Spodoptera exigua) - OREGON - Large numbers, probably this species, appeared in hopyard in Polk County. Controls effective. (Ottoway).

POTATO LEAFHOPPER (Empoasca fabae) - DELAWARE - Present to fairly common on carrots in New Castle County. (Burbutis, Woodall). MARYLAND - Abundant and causing conspicuous injury to unprotected snap and lima beans in all sections. (U. Md., Ent. Dept.). WISCONSIN - Severe "hopperburn" noted in commercial potatoes in Grant County where adults numerous and nymphs still averaged 3 per leaflet. Populations light on snap beans and potatoes in Waushara and Adams Counties. (Wis. Ins. Sur.). IOWA - Adults and larvae present in potato plantings at Shenandoah July 21. (Iowa Ins. Inf.). NEW MEXICO - Probably this species, light in bean and potato fields near Moriarty, Torrance County. Some feeding damage. (Heninger).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Averaged 12 per 10 sweeps on carrots and tomatoes in New Castle County. Nymphs and adults common on lima beans in areas of Sussex County. (Burbutis, Woodall).

GREEN PEACH APHID (Myzus persicae) - NEW YORK - Continues problem in Suffolk County; active on peppers in Erie County. (N.Y. Wkly. Rpt., Aug. 2). NEW JERSEY - Moderate on cabbage in Atlantic County. (Ins.-Dis. Newsltr.). MARYLAND - Light on peppers on 2 farms in Worchester County. (U. Md., Ent. Dept.).

CABBAGE LOOPER (Trichoplusia ni) - IOWA - Larvae hatched at Shenandoah last week. (Iowa Ins. Inf., July 26). NEW JERSEY - Moderate on cabbage in Atlantic County. (Ins.-Dis. Newsltr.). MARYLAND - Light but general in commercial tomatoes in Worchester County. (U. Md., Ent. Dept.).

WHITEFLIES - NEW MEXICO - Very numerous and causing some damage to squash and bean foliage in Las Cruces area, Dona Ana County. (Nielsen). Moderately heavy on beans in fields near Torreon, Torrance County. (Heninger).

SPIDER MITES (Tetranychus spp.) - NEW JERSEY - T. telarius (two-spotted spider mite) infesting eggplant and tomatoes in central and southern sections. (Ins.-Dis. Newsltr.). MARYLAND - Caused heavy injury to garden limas in Allegany and Caroline Counties. (U. Md., Ent. Dept.). OKLAHOMA - Damaging in home gardens in several areas. (Okla. Coop. Sur.). NEW MEXICO - Problem on cucumbers and beans in gardens in Las Cruces area, Dona Ana County. (Nielsen). CALIFORNIA - T. telarius medium on bean and cucumber plants in Fresno, Fresno County. (Cal. Coop. Rpt.). OREGON - Heavy buildup of T. telarius on hops in Willamette Valley since beginning of hot weather in late July. (Morrison).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - INDIANA - Adult populations unusually high; 20-30 per tobacco plant in some instances. Feeding injury obvious throughout southern tobacco areas of State. (Huber, Matthew). MARYLAND - Moderate to heavy on tobacco in St. Marys County. (U. Md., Ent. Dept.).

GREEM PEACH APHID (Myzus persicae) - MARYLAND - Several moderate to heavy infestations occurring on tobacco in Calvert and St. Marys Counties. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Continue light on tobacco in all tobacco-growing counties. (U. Md., Ent. Dept.).

CAROLINA GRASSHOPPER (Dissosteira carolina) - WISCONSIN - Some light feeding on tobacco noticeable in southern Dane County. (Wis. Ins. Sur.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Situation critical on cotton in many areas. Infestation ranged 50-100 percent in untreated fields in several counties. Although control programs hampered by rains, those growers remaining on control schedule attaining good results; infested bolls range 0 to high of 30 percent in these fields. Although infestations relatively high, good top crop can be obtained where schedules maintained. (Insect Notes, Aug. 4). SOUTH CAROLINA - Heavy migration in Florence area makes effective insecticide application necessary if potential yield to be realized. Adults per 100 squares range 0-12 in treated plots and 0-21 in untreated plots. Percent larval infestation ranges 0.2-24 in treated plots and 83-100 in untreated plots. (Taft et al., Aug. 4). Migration underway in most areas of State. According to some reports, initial influx into some fields very heavy. In areas where migration began about 10 days ago, weevil populations showing reduction where controls were continued. Percent infestation averaged 12 in treated fields and 56 in untreated fields, compared with 7 and 35 percent respectively in 1964. (Cott. Ltr., Aug. 2). TENNESSEE - Weevil infestations heaviest in southeast portion of southern tier of counties. Punctured squares averaged 23 percent in infested fields. Heaviest infested field showed 95 percent punctured squares; lowest was 4 percent. Weevil mortality rather high in cotton that does not overlap the middles but rather low where situation exists. Local migration continues in those fields with many squares and young bolls. Many adults observed in blooms; as many as 5 found in one bloom in McNairy County. (Locke, Aug. 4). GEORGIA - Heavy migration underway in southern area (French); infestations heavy in Stewart and Webster Counties (Dillard). Weevils increasing in Spalding County, with heavy damage to squares (Beckham); infestations heavy in Colquitt and Jenkins Counties (Smith, Hancock, Dekle). ALABAMA - Infestations continue major problem to cotton growers; lowest infestations reported in Colbert, Lauderdale and De Kalb Counties. Infestations extremely high in most central area cotton fields. Many fields in southern area maturing and early harvesting underway; most fruiting squares have disappeared. In such instances, percent infestation ranges 70-100 percent, as only few squares available. Some damage to small and medium sized bolls reported. (McQueen).

MISSISSIPPI - Weevil infestation very spotty in delta counties; infestation very high in some fields. Little or no infestation found in some fields. If not already underway, local migration can be expected in areas with heavy infestations. (Pfrimmer et al., Aug. 5). LOUISIANA - Dry weather in Madison Parish aided in keeping infestations in check. Infestation ranged 0-54 (average 8) percent in 122 fields examined. (Cleveland et al., Aug. 5). ARKANSAS - Emergence continued in infested fields over State. No extremely high infestations encountered; control very effective in fields where necessary. Some increase in percent punctured squares occurred in fields where peak of squaring passed. Increase will be more rapid as cotton continues to "cutout" and new weevil generations appear; boll protection should continue in these fields. (Barnes, Roberts, July 30).

OKLAHOMA - Punctured squares ranged 4-22 percent in Kiowa, Jackson and Tillman Counties. Some spraying underway. Infestations moderate in Choctaw County, light in Grady, Cleveland and Beckham Counties. (Okla. Coop. Sur.). TEXAS - Infestation increased over that of previous week in McLennan and Falls Counties. Damaging infestations found in 6 of 7 treated fields and 19 of 25 untreated fields; punctured squares ranged 0-52.5 (average 21.6) percent in treated fields and ranged 2.3-72 (average 25.5) percent in untreated fields. Overall average 22.7 percent. (Cowan et al.). Populations generally light to moderate in central and northern areas of State with spotted, heavy infestations requiring controls continuing in lush dryland and irrigated fields. (Texas Coop. Rpt.).

BOLLWORMS (Heliothis spp., et al.) - NORTH CAROLINA - First punctured squares of season observed week ending July 28; first commercial field infestations reported. (Insect Notes, Aug. 4). SOUTH CAROLINA - Field population increasing rapidly in Florence area. Percent larval infestation ranged 0.5-35.5 in treated plots and 3-14 in untreated plots. Adults in light traps totaled 502 H. zea (bollworm) and 13 H. virescens (tobacco budworm). (Taft et al., Aug. 4). Larvae present in most fields but not serious at present time. Most areas probably between broods, with moth emergence expected within few days. New larvae can be expected to cause considerable damage if plants not protected. (Cott. Ltr., Aug. 2). TENNESSEE - Appear on increase in those fields in western area where controls applied earlier for Anthonomus grandis (boll weevil); however, populations much lower than at same time in 1964. Further increase expected. (Locke, Aug. 4). GEORGIA - Light larval infestations and light trap collections of adults continue to increase in Spalding County. (Beckham). Infestations light in Stewart and Webster Counties. (Dillard). Larvae averaged 4 or more per 100 terminals in 42 of 77 fields of cotton checked in Jenkins County. (Dekle). Infestation light in Colquitt County. (Smith). ALABAMA - Infestations showed considerable increase in few southern counties, including Houston, Montgomery, Cleburne, Perry and Monroe, and in few isolated areas. (McQueen). MISSISSIPPI - Infestations appear low in most fields in delta counties; very few eggs or small larvae found in area. Moth flight at Stoneville and Rolling Fork in southern part of area about same as previous week; not very high. Moth flight increased considerably at Tunica in northern delta area. (Pfrimmer et al., Aug. 5). LOUISIANA - Peak of cycle reached in Madison Parish and percent damaged fruiting forms lower than previous week. Damaged squares found in 122 fields; ranged 0-6 (average 4) percent. Adults in light trap totaled 72 H. zea and 3 H. virescens. (Cleveland et al., Aug. 5). ARKANSAS - Moth activity continues low on sugar lines at Kelso, Desha County. Larvae collected determined as follows by county: Lee - 26 H. zea, 1 H. virescens; Jefferson - 271 H. zea, 6 H. virescens. Egg counts increased at midweek in Jefferson County. (Ark. Ins. Sur.). Cycle passed in most fields. Some large larvae evident in some fields where control inadequate; very obvious feeding on blooms. In most instances larvae below level where actual yield loss will occur. Few large larvae also present in some fields where no controls used. (Barnes, Roberts, July 30).

MISSOURI - Larvae ranged 1-5 and eggs 1-10 per 100 terminals in southeast district week ending August 4. (Jones). OKLAHOMA - Numbers decreased in Jackson County but heavy moth flight expected August 12 and 13. Counts ranged 5-7 percent in Kiowa and Jackson Counties, averaged 18 percent in Tillman County. Light infestations reported in Major, Grady, Beckham and Bryan Counties. (Okla. Coop. Sur.). TEXAS - Infestations decreased over previous week in McLennan and Falls Counties; however, slight increase in egg deposition noted as new generation of moths now present. Eggs ranged 0.1-21.2 (average 4.6) and larvae ranged 0-10.5 (average 1.5) per 100 terminals in 18 treated fields. In 26 untreated fields, eggs ranged 0-56.7 (average 12.4) and larvae 0-7.3 (average 2.1) per 100 terminals. Square injury ranged 0-7 (average 2.1) percent in 17 treated fields and 0-7.7 (average 1.8) percent in 25 untreated fields. Boll injury averaged 2.5 percent in 17 treated and 3.2 percent in 25 untreated fields. Of 454 larvae collected, 199 determined as H. virescens. (Cowan et al.). Infestations generally spotty and range light to heavy in central and northern areas of State, depending largely on plant condition and maturity. Some controls underway in central, north, west and northeast areas. (Texas Coop. Rpt.). NEW MEXICO - H. zea infestations

generally light, with occasional moderate to heavy infestation requiring treatment found in Luna County cotton. (Coppock). Some damge to cotton noted in Chaves County fields. (Kloepfer). ARIZONA - H. zea infestations generally light in all areas with some increasing populations noted. Occasional moderate to heavy infestation found in Pinal and Maricopa Counties. Egg counts increased over previous week. (Ariz. Coop. Sur.). CALIFORNIA - Present in many fields in Fresno County but no serious infestations reported. (Stromberg, July 28). Moth activity continues fairly heavy in northeast Imperial County; parasites and predators holding down populations generally. Few fields have economic levels of small larvae in addition to large numbers of large larvae causing heavy boll damge. (Campbell, July 29).

CABBAGE LOOPER (Trichoplusia ni) - SOUTH CAROLINA - Total of 147 adults taken in light trap. Large number of diseased larvae noted in fields. (Taft et al., Aug. 4). GEORGIA - Infestations ranged light to heavy in southern area cotton (French); light in Spalding County (Beckham). ALABAMA - Second-generation larvae light in field of cotton in Lee County. (McQueen).

COTTON SQUARE BORER (Strymon melinus) - TEXAS - Occasional larva found in cotton in 7 fields in McLennan and Falls Counties. (Cowan et al.). ARIZONA - Very light populations found in fields of cotton in Wellton area, Yuma County. (Ariz. Coop. Sur.).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Small number of new larvae observed in cotton in Elroy and Coolidge areas, Pinal County. Many larvae appeared to be parasitized. (Ariz. Coop. Sur.). CALIFORNIA - Small numbers persist in Fresno County; seriously damaged individual plants in isolated instances. (Stromberg, July 28).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Low numbers observed in cotton in Pecos and El Paso Counties, with little economic damage noted. (Neeb). NEW MEXICO - Random bloom inspection in 6 cotton-growing counties showed following results: Infested blooms ranged 1-8 percent in infested fields in southern Eddy County and infestations light in northern part of county; no larvae found in blooms in Chaves, Hidalgo and Lea Counties; light infestations found on 5 properties in Columbus area of Luna County. (N.M. Coop. Rpt.). ARIZONA - Numerous larvae and exit holes found in 2 fields of cotton northeast of Mesa in Maricopa County. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Averaged 2-4 per 25 sweeps in Luna County cotton; very few nymphs noted. (Coppock). ARIZONA - Moderate to heavy populations continue to damage squares in Maricopa, Pinal and Pima Counties. Populations light in Graham, Cochise and Yuma Counties. Damaged squares ranged 15-20 percent in central and southern area cotton; averaged approximately 5 percent in most other areas. (Ariz. Coop. Sur.). CALIFORNIA - Common on cotton in all areas of Fresno County with nymphs composing over half of counts. (Stromberg, July 28). Counts variable in Imperial County, depending upon migration from hay. Some ecomomic counts, predominatly adults, noted. (Campbell, July 29).

PLANT BUGS - TENNESSEE - Complex of species present in large number of fields in western area; apparently not increasing, although some light damage noted. (Locke, Aug. 4). MISSISSIPPI - Lygus lineolaris (tarnished plant bug) and/or fleahoppers reported as moderate to heavy in occasional field of cotton in delta counties. (Pfrimmer et al., Aug. 5). LOUISIANA - L. lineolaris and fleahoppers light in cotton in Madison Parish. (Cleveland et al., Aug. 5). MISSOURI - Several species ranged 1-20 per 100 cotton plants in southeast district week ending August 4. (Jones). OKLAHOMA - Psallus seriatus (cotton fleahopper) reported moderate and damaging late-planted cotton in Roger Mills and Beckham Counties. (Okla. Coop. Sur.). TEXAS - P. seriatus averaged 3.9 per 100 cotton terminals in 44 fields in McLennan and Falls Counties. (Cowan et al.).

STINK BUGS - CALIFORNIA - Populations increasing in some cotton in Imperial County. (Campbell, July 29).

APHIDS - SOUTH CAROLINA - Some spotty infestations noted in cotton in Florence area. (Taft et al., Aug. 4). Not reported serious at any location. (Cott. Ltr., Aug. 2). MISSISSIPPI - Reported heavy on cotton in occasional field in delta counties. (Pfrimmer et al., Aug. 5).

LEAFHOPPERS - CALIFORNIA - Severe in some fields of cotton in Imperial County; populations low to moderate in other fields. (Campbell, July 29).

CRICKETS - CALIFORNIA - Abundance, especially in northern half of Imperial Valley, reached critical levels in some cotton. Severe leaf feeding, plus injury to squares, flowers and bolls (even to extent of chewing through carpels and feeding on immature seeds) has occurred. Bait resulted in acceptable control in most instances; however, repeated control applications have been required where problems arose concerning acceptance of baits by crickets. (Campbell, July 29).

SPIDER MITES - SOUTH CAROLINA - Some spotty infestations noted in cotton in Florence area. (Taft et al., Aug. 4). Present in most cotton in Calhoun County; also present in Laurens County. (Nettles et al., Aug. 3). Some infestations of Tetranychus telarius (two-spotted spider mite) difficult to control in some fields. (Cott. Ltr., Aug. 2). TENNESSEE - Continue to cause considerable damage where controls not applied in westen cotton-growing area of State. Dry weather ideal for further increase. More fields being found generally infested, rather than spot infestations common earlier. (Locke, Aug. 4). GEORGIA - Infestations light on cotton in Spalding County. (Beckham). ALABAMA - Continue less important on cotton than during 1964 season. Isolated infestations reported in Cherokee and Colbert Counties. (McQueen). MISSISSIPPI - Continue a problem in many fields in delta counties. Results of controls quite variable. (Pfrimmer et al., Aug. 5). MISSOURI - Spot infestations of Tetranychus spp. found in 27 percent of fields checked week ending August 4; treatments applied to 283 acres in 49 fields. (Jones). TEXAS - Found in 1 field in McLennan and Falls County area. (Cowan et al.). CALIFORNIA - Well controlled for most part in Fresno County. Appear to be building up in area from Caruthers to Selma. (Stromberg, July 28).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

JACK-PINE BUDWORM (Choristoneura pinus) - MINNESOTA - Caused moderate to heavy defoliation in most of southwest corner of Chippewa National Forest. Adults laying eggs in Brainerd and Bemidji areas. (Minn. Ins. Rpt.). WISCONSIN - Egg laying completed; 90 percent of eggs hatched in Polk and Burnett Counties by August 2. (Wis. Ins. Sur.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - KANSAS - Full-grown larvae and pupae reported in south central district. (Brooks, July 30). MISSOURI - Infested pines at home in Warrensburg, Johnson County. (Funck).

PINE TUSSOCK MOTH (Dasychira plagiata) - WISCONSIN - Pupation completed in Douglas and Bayfield Counties by August 2. Ovisposition underway; 80 percent of eggs hatched. Cool weather prolonging development and egg laying. (Wis. Ins. Sur.).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - OHIO - Infested Austrian pine in Lucas County; 50 trees involved. (Jones).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - MINNESOTA - Middle and late instars feeding in central part of State; many leaving trees to form cocoons. Severe defoliation of roadside jack pines in Cambridge and Princeton area; light to moderate defoliation along U.S. Highways 10 and 371 to Brainerd. No infestations in red pine reported. (Minn. Ins. Rpt.).

INTRODUCED PINE SAWFLY (Diprion similis) - MINNESOTA - Some late instars of first generation continue feeding in central and north central districts; most formed cocoons. Parasitism of cocoons quite high in some areas; ranged 60-70 percent in Crow Wing County. Adults emerging and second-generation larvae expected in 1-2 weeks. (Minn. Ins. Rpt.).

LARCH SAWFLY (Pristiphora erichsonii) - WISCONSIN - About 100 acres of tamarack near Antigo, Langlade County, nearly 50 percent defoliated. Defoliation light elsewhere in area. (Wis. Ins. Sur.).

COOLEY SPRUCE GALL APHID (Chermes cooleyi) - NEW MEXICO - Light to moderate with occasional heavy concentration of galls on spruce trees checked on Santa Fe and Carson National Forests; some smaller trees with abnormally large number of galls. (Heninger, Mathews).

SPITTLEBUGS (Aphrophora spp.) - MINNESOTA - A. parallela (pine spittlebug) adults very numerous in most of jack-pine area; no damage noted. Light numbers of adults of A. saratogensis (Saratoga spittlebug) present throughout much of central and north central districts; some heavy infestations noted on Chippewa National Forest. (Minn. Ins. Rpt.).

WHITE-PINE WEEVIL (Pissodes strobi) - MINNESOTA - Found in Ely area, St. Louis County. (Minn. Ins. Rpt.). VIRGINIA - Damaging 2-5 percent of white pine on 3-acre tract in Lee County. (Isakson, Compton, July 22).

SITKA-SPRUCE WEEVIL (Pissodes sitchensis) - OREGON - Damage to spruce in coastal areas apparently less than in other years. (Pearson).

SPIDER MITES - TEXAS - Several species damaging ornamentals in most areas as generally hot, dry weather continues. (Texas Coop. Rpt.). WISCONSIN - Populations on red pine and other evergreens apparently decreased. (Wis. Ins. Sur.). NEW YORK - Active in spruce in Niagara County. (N.Y. Wkly. Rpt., Aug. 2).

ELM LEAF BEETLE (Galerucella xanthomelaena) - UTAH - Damage serious in Moab area, Grand County, and Green River area, Emery County. (Roberts, Knowlton). ARIZONA - Continues defoliation of trees in Maricopa and Pinal Counties. Heavy at St. Johns, Apache County. (Ariz. Coop. Sur.). NEW MEXICO - Heavy and skeletonizing foliage

of Chinese elms near Sandoval, Sandoval County. (Heninger). TEXAS - Larvae heavy on Chinese elms in Hood County. (Newton). OKLAHOMA - Moderate to heavy in eastern half of State; adults numerous in northwest area. (Okla. Coop. Sur.). MISSOURI - Pupation nearly complete; adults emerging in Platte County. (Houser, Peters). NORTH CAROLINA - Severely damaged Chinese elm in Rowan County. (Scott)

IMPORTED WILLOW LEAF BEETLE (Plagiodera versicolora) - MINNESOTA - Found on willows in Duluth area. (Minn. Ins. Rpt.).

COTTONWOOD LEAF BEETLES (Chrysomela scripta complex) - WYOMING - Adults and larvae damaging cottonwood trees at Douglas, Converse County. (Fronk). NORTH CAROLINA - Noted on willow in Martin County. (Hodges, Jones).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - MICHIGAN - First appearance of second-brood adults July 29 in Ingham County; about 10 percent of field population larvae and 70 percent pupae presently. Peak flight expected in mid-August; adult activity will continue into September. (Ilnytzky). VIRGINIA - Infested elm at Colonial Heights, Chesterfield County. (Isakson, Jones).

A BUPRESTID BEETLE (Agrilus arcuatus) - INDIANA - Damaging oak terminals in Indianapolis area, Marion County. (Clark).

LOCUST BORER (Megacyllene robiniae) - NEW JERSEY - Controls urged on infested trees in mid-August. (Ins.-Dis. Newsltr.).

MAY BEETLES (Phyllophaga spp.) - WISCONSIN - Larvae damaging garden plants in parts of Fond du Lac, Waupaca and Grant Counties. (Wis. Ins. Sur.). MISSOURI - Adults of P. ephilida feeding on elm leaves in Pulaski County July 29 and adults of P. forbesi in Crawford County August 3 infested fruit and ornamental trees and shrubs. (Thomas).

A LEAF-MINING WEEVIL (Odontopus calceatus) - OHIO - Attacked magnolia and yellow-poplars at Circleville, Pickaway County; damage not serious. (Walker).

GALL WASPS - OHIO - Neuroterus spp. caused galls on white oak leaves at Hudson, Summit County; outer ends of branches most heavily affected. (Rings). CALIFORNIA - Andricus wiltzae medium on Quercus lobata in Orinda, Contra Costa County. (Cal. Coop. Rpt.).

PIGEON TREMEX (Tremex columba) - VERMONT - Appearing on dying trees; commonly found ovipositing in weakened or recently dead hardwood trees, especially elm. (MacCollom, Aug. 2).

BIRCH LEAF MINER (Fenusa pusilla) - WISCONSIN - Second-generation larvae feeding on birches in Door County. (Wis. Ins. Sur.).

WILLOW SHOOT SAWFLY (Janus abbreviatus) - SOUTH DAKOTA - Collected from willow near Yankton, Yankton County. (Kantack).

FALL WEBWORM (Hyphantria cunea) - NEW HAMPSHIRE - Forming webs at Durham, Strafford County. (Mason). VIRGINIA - Infested yard tree at Newport News. (Amos, Kelly). KANSAS - Abundant in trees in southeast. (Gates, July 30).

CATALPA SPHINX (Ceratomia catalpae) - SOUTH CAROLINA - First brood heavy, almost 100 percent defoliation on some trees in Calhoun and Orangeburg Counties. (Nettles et al., Aug. 3). DELAWARE - Larvae common on catalpa locally in New Castle County. (Davis).

GYPSY MOTH (Porthetria dispar) - MICHIGAN - Trapping continues negative. (Ring).

FOREST TENT CATERPILLAR (Malacosoma disstria) - MINNESOTA - Defoliated aspen along northern edge of Chippewa National Forest; new leaves forming in defoliated areas. (Minn. Ins. Rpt.).

TENT CATERPILLARS (Malacosoma spp.) - WYOMING - Numerous webs on chokecherry in northeast counties; causing concern to homeowners. (Marks).

PERIODICAL CICADAS (Magicicada spp.) - OHIO - Nymphs emerging from egg slits at Wooster, Wayne county. (Rader). Caused extensive injury on great many trees and shrubs at Holden Arboretum in Lake County. (Forsythe).

NORWAY-MAPLE APHID (Periphyllus lyropictus) - UTAH - Making hundreds of trees very sticky; premature leaf fall occurring in parts of Cache, Box Elder, Weber, Davis, Salt Lake and Utah Counties. Unspecified aphids troublesome on some willows in Panquitch area, Garfield County, and on elms at Kanab, Kane County. (Knowlton).

A PLANT BUG (Neoborus pacificus) - CALIFORNIA - Adults heavy on ash trees in La Mesa, San Diego County. (Cal. Coop. Rpt.).

A COREID BUG (Leptocoris rubrolineatus) - CALIFORNIA - Adults heavy on boxelders; nuisance in yards in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

MAPLE BLADDER-GALL MITE (Vasates quadripedes) - OREGON - Locally on maple leaves in Jackson County. (Berry).

APHIDS - NEW YORK - Unspecified species heavy on commercial chrysanthemums in Suffolk County. (N.Y. Wkly. Rpt., Aug. 2). Unspecified species reported in CEIR 15(26):694 as heavy on privet in Suffolk County and unidentified species persisting in some privet plantings in Suffolk County in CEIR 15(31):871 determined as Myzus ligustri (privet aphid) by Dr. M. D. Leonard. There is only one other record of this species in State; collected at Orient, Suffolk County, in 1946. (Leonard). DELAWARE - Lachnus salignus present on willows locally in Sussex County. (Baker). OKLAHOMA - Undetermined species heavy on crapemyrtle in Payne County; moderate on several ornamentals in Jefferson County. (Okla. Coop. Sur.). CALIFORNIA - Calaphis betulaecolens and Euceraphis gillettei heavy on beech trees in San Francisco, San Francisco County. Aphis nerii (oleander aphid) medium on oleander plantings in Fresno, Fresno County. (Cal. Coop. Rpt.).

COCCIDS - FLORIDA - Pseudaonidia clavigera moderately damaged stem of camellia at Tampa, Hillsborough County. (Fuller, July 21). Adults of Aonidiella orientalis localized on leaves of Strelitzia regina in nursery at Orlando, Orange County. (Crews, July 23). Adults of Aspidiotus yuccae moderately damaged leaves of Yucca thompsonii in nursery at Fort Myers, Lee County. (Walsh, Nelson, July 26). Ceroplastes ceriferus localized and moderately damaging stem of Podocarpus macrophylla in nursery at Osprey, Sarasota County. (Bickner, July 21). GEORGIA - Icerya purchasi (cottony-cushion scale) heavy on nandina plants in Clarke County. (Coleman). ARIZONA - Parlatoria oleae (olive scale) noted in nursery in Phoenix area, Maricopa County. (Ariz. Coop. Sur.). CALIFORNIA - Toumeyella pinicola heavy on pine nursery stock in Leucadia, San Diego County. (Cal. Coop. Rpt.).

BAGWORMS - GEORGIA - Continue infesting ornamental conifers in Spalding County. (Tippens). OKLAHOMA - Thyridopteryx ephemeraeformis (bagworm) heavy on evergreens in Washington and Cleveland Counties; moderate in Mayes, Kay, Kingfisher and Beckham Counties. (Okla. Coop. Sur.).

A LEAF ROLLER MOTH (Ptycholoma sp.) - CALIFORNIA - Infesting Transvaal daisy locally in Riverside, Riverside County. (Cal. Coop. Rpt.).

A NYMPHALID BUTTERFLY (Vanessa carye) - NEVADA - Medium on hollyhock in Elko, Elko County. (Del Curto).

LILAC BORER (Podosesia syringae syringae) - SOUTH DAKOTA - Infested lilac near Yankton, Yankton County. (Kantack).

RASPBERRY CANE BORER (Oberea bimaculata) - NEW YORK - Infesting pruning wounds on roses in nursery in Nassau County and causing severe injury. (N.Y. Wkly. Rpt., Aug. 2).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - INDIANA - Adults unusually numerous on flowers throughout State. (Clark).

EUROPEAN EARWIG (Forficula auricularia) - NEVADA - Numerous and damaging plants and flowers in home gardens in Reno-Sparks area, Washoe County. (Coop. Rpt.).

SPOTTED GARDEN SLUG (Limax maximus) - NORTH CAROLINA - Caused some damage to flowers near home in Wake County. (Wray).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MARYLAND - Adults of Psorophora cyanescens collected in light traps July 19 in Talbot County and on July 25 in St. Marys County; these are new county records. (Davidson, Bickley). MICHIGAN - For first time since early spring, adult populations so low that practically none taken at blacklight stations. (Snow). MINNESOTA - Metropolitan Mosquito Control District light traps yielded 27,662 females week of July 25-31; 24,232 Aedes vexans, 10,022 Culex tarsalis, 462, Culiseta minnesotae, 423 Culex spp., 401 Mansonia perturbans included in total. Larval collections down to 38 samples; 20 contained Aedes spp., collected mostly in Scott County. In 35 evening collections, 549 Aedes vexans, 36 A. cinereus and 31 Mansonia perturbans taken; A. vexans collections also high for daytime collections. In 726 samples, 5,440 females out of 7,495 were A. vexans. Also collected were 482 Aedes cinereus, 410 A. stimulans, 345 A. trivittatus and 18 other species. (Minn. Ins. Sur.). IOWA - Treatment recommended to prevent buildup of Culex pipiens pipiens (northern house mosquito) in sewage lagoons and Aedes vexans in standing water in southwest section. (Iowa Ins. Inf., July 26). MISSOURI - Recent floods in northwest and west central areas created mosquito problem as well as causing considerable damage to crops and property. (Wkly. Ins. Rpt.). KANSAS - Aedes vexans comprised major portion of light trap catches; Culex pipiens, Anopheles punctipennis, Psorophora confinnis and P. signipennis recovered in small numbers. (July 30). Aedes vexans still predominant species; first Culex tarsalis taken July 29. Psorophora confinnis common. (Simpson). NEW MEXICO - Mosquitoes a problem in and around residential areas following recent rains. (N.M. Coop. Rpt.). UTAH - Moderately numerous about Logan and in Logan Canyon, Cache County, and in Willard-Fielding areas of Box Elder County. (Knowlton). Much fogging at Logan has not reduced annoyance; very troublesome in Cache Valley communities. (Knowlton, Roberts).

FACE FLY (Musca autumnalis) - MISSOURI - Larvae noted in Sullivan, Livingston, Platte, Daviess and Buchanan Counties. Although probably in those counties since at least 1960, this is the first report. Adults ranged 1-5 per face in various herds checked. (Houser). Counts on herds used in population studies averaged 3.6, 1.6 and 11.7 in Randolph, Adair and Macon Counties, respectively. (Thomas). WISCONSIN - Activity increasing in some areas. (Wis. Ins. Sur.). MARYLAND - Generally low on dairy cattle in Frederick County. (U. Md., Ent. Dept.). SOUTH CAROLINA - Found feeding around eyes of cattle in Cherokee and Laurens Counties. These are new county records. Cherokee County record det. by A. B. Ward. (Nettles et al., Aug. 3).

HOUSE FLY (Musca domestica) - UTAH - Moderate to numerous throughout Kane and Garfield Counties. (Lindsay, Knowlton). NEW MEXICO - Abundant and annoying in and around homes and cafes in Sandoval and Valencia Counties. (Heninger). WISCONSIN - Activity about normal in most areas. (Wis. Ins. Sur.). INDIANA - Increasing after recent rains in central area. (Dobson). GEORGIA - Nuisance in roadside parks and picnic areas in southern part of State. (Tippins).

HORN FLY (Haematobia irritans) - WYOMING - Numbers high on livestock in north central and northeast counties; counts on untreated animals ranged 200-300 adults per animal. (Marks). UTAH - Numerous and troubling cattle throughout Farmington-Syracuse area, Davis County. (Knowlton). Increasingly troublesome in Garfield County and more numerous in Kanab-Orderville area of Kane County. (Lindsay, Knowlton). KANSAS - Ranged 100-200 per animal in Cloud County. (Gates, Simpson, July 30). Heavy, 500-1,000 per animal in Morris and Lyon

Counties. (Simpson). OKLAHOMA - Averaged 400 or fewer per head in southeast and north central areas. Heavy in Choctaw and Jefferson Counties; moderate in Haskell, Hughes, Murray and Mayes Counties. (Okla. Coop. Sur.). MARYLAND - Ranged 50-150 per animal in 2 herds of unprotected dairy cattle in Frederick County. (U. Md., Ent. Dept.).

STABLE FLY (Stomoxys calcitrans) - SOUTH DAKOTA - Populations high throughout State; particularly numerous near Redfield, Spink County. (Kantack). WYOMING - Ranged 6-8 per animal in feedlot near Sheridan, Sheridan County. (Marks). KANSAS - Ranged 10-20 per animal in Cloud County. (Gates, Simpson, July 30). OKLAHOMA - Averaged 4 per head on dairy cattle checked in Payne County. (Okla. Coop. Sur.). INDIANA - Building up in central area after recent rains. (Dobson).

TABANID FLIES - VERMONT - Tabanus similis and T. quinquevittatus abundant and annoying livestock throughout State. Late-season deer fly species apparently not so abundant or so annoying as earlier species this year. (MacCollom, Aug. 2). WISCONSIN - Deer flies and horse flies bothersome near wooded area. (Wis. Ins. Sur.). OKLAHOMA - T. abactor and T. lineola (striped horse fly) complex averaged 1-2 per head in southeast areas; T. atratus (black horse fly) and other species less numerous. (Okla. Coop. Sur.).

BLACK BLOW FLY (Phormia regina) - ALABAMA - Large number of larvae taken from dehorn wound on cow in Dallas County. Det. by V. R. Emrick. (Alsobrook).

LAKE MIDGES (Chironomus spp.) - WISCONSIN - Very annoying in Madison area; entering homes through screens and appearing as "rain" on warm nights. (Wis. Ins. Sur.).

EYE GNATS (Hippelates spp.) - GEORGIA - Nuisance in southern area in roadside parks and picnic areas. (Tippins).

WASPS - UTAH - Annoying about home and school in 2 parts of Logan, Cache County. (Knowlton). NORTH CAROLINA - Scleroderma carolinense (a bethylid wasp) stung people in Pitt County home July 20; undetermined species stung person in Moore County July 23. (Wray).

FLEAS (Ctenocephalides spp.) - CALIFORNIA - Larvae heavy in wool sweater in Vallejo, Solano County. Heavy in yard and home in Corning, Tehama County. (Cal. Coop. Rpt.).

LONE STAR TICK (Ambylomma americanum) - OKLAHOMA - Adults ranged 1-2 per head in most areas but as high as 50 per head in favorable areas in southeast. Heavy on cattle in Haskell County; moderate in Choctaw County. (Okla. Coop. Sur.).

NORTHERN FOWL MITE (Ornithonyssus sylviarum) - CALIFORNIA - Medium on human in Santa Barbara, Santa Barbara County. (Cal. Coop. Rpt.).

HOUSEHOLD AND STRUCTURAL INSECTS

CLOTHES MOTHS - GEORGIA - Tinea pellionella (casemaking clothes moth) moderate in home in Jeff Davis County. (Stewart). ALABAMA - T. pellionella larvae, pupae and adults heavy in rugs; caused considerable damage in home in Montgomery. (Griffith). UTAH - Unspecified species damaged woolens in home at Salt Lake City, Salt Lake County. (Knowlton). CALIFORNIA - Acedes fuscipunctella adults extremely heavy and created severe household nuisance in home in La Sierra, Riverside County. (Cal. Coop. Rpt.).

A DERMESTID BEETLE (Trogoderma inclusum) - ARIZONA - Causing concern in housing projects at Page, Coconino County. (Ariz. Coop. Sur.).

SQUARE-NECKED GRAIN BORER (Cathartus quadricollis) - ALABAMA - Infested pantries in Lee County homes. (McQueen).

CIGARETTE BEETLE (Lasioderma serricorne) - ALABAMA - Pantry pest in several homes in Lee County. (McQueen).

MILLIPEDS - IOWA - Large populations active in and around houses in Sioux City and in Springbrook State Park. (Iowa Ins. Inf., July 26). SOUTH CAROLINA - Heavy in Pickens County. (Nettles et al., Aug. 3).

COCKROACHES - MARYLAND - Supella supellectilium (brown-banded cockroach) infested home in Baltimore County; Blatta orientalis (oriental cockroach) infested 2 homes in Anne Arundel County. (U. Md., Ent. Dept.).

EARWIGS - UTAH - Very troublesome at Oak City, Deseret and Fillmore, Millard County, and in Smithfield-Richmond area of Cache County. (Knowlton).

BOXELDER BUG (Leptocoris trivittatus) - UTAH - Extremely numerous about home at Logan, Cache County; annoying in other parts of county. (Knowlton).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - CALIFORNIA - Medium in home in Chico, Butte County. (Cal. Coop. Rpt.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - NORTH CAROLINA - Nuisance in homes in Surry and Durham Counties. (Jackson, Hodges).

WEEVILS (Brachyrhinus spp.) - VERMONT - Several infestations in and around homes reported. (MacCollom, Aug. 2). NEW JERSEY - B. ovatus (strawberry root weevil) invading many homes in Cumberland County. (Ins.-Dis. Newsltr.). MARYLAND - Unspecified species entering homes in Anne Arundel and Baltimore Counties. (U. Md., Ent. Dept.). VIRGINIA - Large number of B. sulcatus (black vine weevil) invaded home in Rockbridge County, (Amos, Woodside); B. sulcatus entered home in Harrisonburg, (Amos, Peterson). WISCONSIN - Reports of invasions into homes by B. ovatus subsided. (Wis. Ins. Sur.). UTAH - More than 100 adults of B. ovatus in home in Logan, Cache County. (Knowlton).

A SUBTERRANEAN TERMITE (Reticulitermes sp.) - SOUTH DAKOTA - Damaged slab-foundation home near Tyndall, Bon Homme County. (Kantack).

STORED-PRODUCT INSECTS

INDIAN-MEAL MOTH (Plodia interpunctella) - ARIZONA - Heavy in oat storage on farm near Alpine, Apache County. (Ariz. Coop. Sur.).

BENEFICIAL INSECTS

LADY BEETLES - NEW MEXICO - Counts per 25 sweeps in alfalfa as follows: 10-15 in Belen area and 4-10 in Bluewater area, Valencia County; 1-4 in Sandoval County; 5-15 in Albuquerque area, Bernalillo County; and 4-10 in Moriarty area, Torrance County. (Heninger). WYOMING - Adults and larvae of several species numerous in corn fields infested with Rhopalosiphum maidis (corn leaf aphid) and averaged 48-60 per 100 sweeps in alfalfa fields throughout north central and northeast counties. (Marks). MINNESOTA - Populations increased and will aid in controlling R. maidis. (Minn. Ins. Rpt.). INDIANA - Adults and larvae of unspecified species ranged 5-10 per plant on corn heavily infested with leaf aphids. (Huber, White).

A MELYRID BEETLE (Collops sp.) - NEW MEXICO - Counts per 25 sweeps in alfalfa as follows: 2-3 in Belen area of Valencia County and 0-3 in Albuquerque area of Bernalillo County. (Heninger).

THREE-LINED POTATO BEETLE (Lema trilineata) - MARYLAND - Destructive to Jimsonweed in many corn fields on Eastern Shore. (U. Md., Ent. Dept.).

DAMSEL BUGS - NEW MEXICO - Counts per 25 sweeps in alfalfa as follows: 5-11 in Belen area and 5-12 in Bluewater area, Valencia County; 0-3 in Sandoval County; 2-8 in Albuquerque area, Bernalillo County; and 3-9 in Moriarty area, Torrance County. (Heninger). ARKANSAS - Nabis spp. continue important in soybeans, averaging 6.4 per 30 feet of row. (Ark. Ins. Sur.). INDIANA - Adults range 1-4 per sweep in alfalfa throughout State. (Huber).

AN INSIDIOUS FLOWER BUG (Orius insidiosus) - KANSAS - Very prevalent in most corn checked in northeast district. (Brooks, Simpson, July 30).

BIG-EYED BUGS (Geocoris spp.) - ARKANSAS - G. punctipes continues important in soybeans. G. uliginosis found occasionally. Counts average 2.4 adults and 3.4 nymphs per 20 feet of row. (Ark. Ins. Sur.).

ANTHOCORID BUGS - NEW MEXICO - Counts per 25 sweeps in alfalfa as follows: 14-22 in Valencia area and 2-8 in Bluewater area, Valencia County; 10-15 in Sandoval County; 8-25 in Albuquerque area, Bernalillo County; and 5-8 in Moriarty area, Torrance County. (Heninger).

LACEWINGS - MINNESOTA - Larvae increased; will help control Rhopalosiphum maidis (corn leaf aphid). (Minn. Ins. Rpt.). NEW MEXICO - Green lacewings range 0-6 per 25 sweeps in alfalfa in Albuquerque area, Bernalillo County. (Heninger).

SYRPHID FLIES - NEW MEXICO - Counts range 0-5 per 25 sweeps in alfalfa in Belen area, Valencia County. (Heninger). UTAH - Larvae heavily attacking gall-forming aphids on cottonwood trees at Garden City and Randolph, Rich County. (Knowlton).

CICADA KILLER (Sphecius speciosus) - KANSAS - Abundant in Riley County. (Simpson, July 30).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - INDIANA - Found in North Vernon, Jennings County. This is a new county record. (Clark). MICHIGAN - Very light sampling of adults taken in trapping areas of Battle Creek, Metropolitan Detroit and along State line in Monroe County. Single adult taken in Berrien County trap. All collections to date from scattered traps; mostly single specimens. No "hot spots" discovered. (Ring). MINNESOTA - Live specimen recovered on airplane originating flight in infested area. (Minn. Ins. Rpt.). MISSOURI - Nine adults taken in traps to August 6 in St. Louis area. (Morgan).

SCARABS - ALABAMA - Numerous adults of Dynastes tityus (eastern hercules beetle), Pelidnota lutea and Pseudolucanus capreola collected from many areas of State. (McQueen). VIRGINIA - Adults of D. tityus noted in Hillsville, Carroll County, and Tazewell, Tazewell County. (Isakson).

WHITE-FRINGED BEETLES (Graphognathus spp.) - MISSOURI - Surveys in "delta" area of southeast negative. (Morgan).

A DARKLING BEETLE (Blapstinus rufipes) - CALIFORNIA - Adults, probably this species, heavy in fields and yards in Madera, Madera County. (Cal. Coop. Rpt.).

ANTS - WISCONSIN - Considerable activity by Solenopsis molesta (thief ant) and Monomorium pharaonis (Pharoah ant) past few weeks in southern areas; activity attributed to drier conditions in areas. (Wis. Ins. Sur.). OKLAHOMA - Small mating swarm of Pogonomyrmex barbatus (red harvester ant) noted in Rogers County July 28 after rain previous night. (Okla. Coop. Sur.). NEW JERSEY - Acanthomyops interjectus (larger yellow ant) swarming in central counties. (Ins.-Dis. Newsltr.).

PSOCIDS - CALIFORNIA - Nymphs heavy in empty egg cartons in egg company in San Jose, Santa Clara County. (Cal. Coop. Rpt.). ALABAMA - Numerous adults on stems of camellias in Mobile County; caused considerable concern to nurserymen; numerous reports from Houston, Blount and Lee Counties. (Seibels, Wallace, White, McCall).

FIELD CRICKETS (Gryllus spp.) - OKLAHOMA - Reported heavy about lights in several towns in Jefferson County. (Okla. Coop. Sur.).

EUROPEAN EARWIG (Forficula auricularia) - MICHIGAN - First specimens of season submitted August 2 from Ingham County; some adult and nymphal activity reported in area of Lansing found infested in 1964. (Janes, Hornsby).

ACARID MITES - NORTH CAROLINA - Infested laboratory materials in institution in Durham. (Mount). Acarus siro (grain mite) infested poultry feed in Alexander and Durham Counties. (Wray, July 21).

A TARSONEMID MITE (Tarsonemus setifer) - DELAWARE - This fungus-feeding species collected on firethorn by D. MacCreary at Newark, New Castle County, August 3. Det. by J. Mellott. This is a new State record. (Burbutis, Woodall).

CORRECTIONS

CEIR 15(31):870 - SOFT SCALES - OHIO - Note concerning Lecanium fletcheri (Fletcher scale) should read "... populations have increased over last year in Summit and Portage Counties on arborvitae and yew. (Kelly)."

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chortagrotis auxiliaria (army cutworm)	Estigmene acrea (salt marsh caterpillar)	Feronia diffusa (white grub 2 sp.worm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiftilis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Sodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
ARKANSAS																								
Hope 7/29-8/4				9						0	19					0				4				
Kelso 7/29-8/4				0						0	19					0				3				
Fayetteville 7/29-8/4				2						2	39					1				0				
ILLINOIS (County)																								
Champaign 7/30-8/5	56-89	1.67		30							4				6	32	41		3	41		13	2	
INDIANA (Counties)																								
Posey 7/24-30			BL	11			35				3				707	2		22	6	36				
Vanderburgh 7/24-30			BL	19			8				2				48	5		0	6	44				
Harrison 7/24-30			BL	9			4				2				67	3		9	16	27				
Dubois 7/24-29			BL	13			16				3				73	8		4	11	42				
Sullivan 7/24-30			BL	6			11				2				62	4		7	7	38				
Greene 7/24-30			BL	9			10				0				12	8		4	8	63				
Jackson 7/24-30			BL	31			0				4				9	6		4	8	79				
Switzerland 7/24-30			BL	63			4				0				2	7		2	7	30				
Franklin 7/24-30			BL	26			8				0				70	0		2	9	74				
Parke 7/24-30			BL	10			10				2				2	0		2	21	20				
Shelby 7/24-30			BL	14			3				0				13	4		1	5	51				
Hamilton 7/24-30			BL	38			8				10				8	15		4	4	114				
Tippecanoe 7/24-30			BL	143			10				11				57	9		0	0	130				
Wells 7/24-30			BL	12			1				1				0	1		0	2	21				
Jasper 7/24-30			BL	11			4				0				171	6		3	0	18				
Allen 7/24-30			BL	9			7				0				2	4		0	0	12				
Lake 7/27-30			BL	12			0				0				6	1		0	0	12				
St. Joseph 7/24-29			BL	18			1				0				74	8		1	1	30				
Lagrange 7/24-30			BL	17			0				0				14	7		4	2	41				
OHIO (Counties)																								
Licking 7/29-8/4			BL	1													5			1				
Wayne 7/29-8/3			BL	3														2						
Franklin 8/1, 3			BL	6												1	4			5				
MARYLAND																		spp.						
Centreville 7/27-8/2				9							52				134	3		15		38		14		
Snow Hill 7/27-8/2				44							236				361	26		22		170			28	
MASSACHUSETTS																								
East Wareham 7/24-30			2BL															2		58				
MICHIGAN (Counties)																								
Branch 7/27-8/2			BL	6											13	1	0			9				
Jackson 7/27-8/2			BL	1											1	0	0			1				
Saginaw 7/27-8/2			BL	4											1	1	1			4				
Sanilac 7/27-8/2			BL	2											0	0	1			6				
Newaygo 7/27-8/2			BL	0											0	1	1			5				
Iron 7/27-8/2			BL	0											0	0	0			0				

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt marsh caterpillar)	Feronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege similalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Perideroma saucia (variegated cutworm)	Prodenia orthogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops **
MISSISSIPPI																								
Tunica 7/30-8/5	57-95		BL	65			10		364	8	259				3	81	6	27	31	6	90	43		
Stoneville 7/30-8/5	60-94	Trace	2BL	14			20		146		153				1	125		8	88	27	53	305		
Rolling Fork 7/30-8/5	61-93		BL	3			1		51	4	58				2	42		8	30	9	11	203		
MISSOURI																								
Portageville 7/31-8/6			BL	2							40			104		25			3					
MINNESOTA																								
Crookston 7/24-30				1					0				0	17	1	0			1					
Fergus Falls 7/24-30				1					6				0	19	2	0			1					
Rochester 7/24-30				9					0				0	0	22	7			36					
Shakopee 7/24-30				0					0				0	2	11	2			6					
Worthington 7/24-30				5					0				0	4	2	8			13					
NEBRASKA																								
Bushnell 6/29-7/5				4		11									45				184					
Bushnell 7/6-10				1		3									22				47					
Chappell 6/28-7/4				1		3									12				75					
Chappell 7/5-8				2								spp.			10				54					
Gering Valley 7/8-14				10		3						84			3				3					
Gering Valley 7/15-21						4		2				1118			14				13					
North Platte 7/2-8				45		28					1			13	78		1		146					
North Platte 7/9-15				15		3								5	121		2		121					
Ogallala 6/28-7/4				15		12					2				33				134					
Parks 6/30-7/6				20		4		18				58			45				184					
Parks 7/7-13				8		9						71			17				79					
Scotts Bluff Expt. Sta. 6/19-25				6		20		2		1		23			41		1		340					
Scotts Bluff Expt. Sta. 7/3-9				17		6		2				31			22		1		76					
Scotts Bluff Expt. Sta. 7/10-16				11		1						405			13				13					
Scotts Bluff Expt. Sta. 7/17-23				7		4		4				3709			54				21					
NEW JERSEY																								
Aura 8/2, 6											18			9		34			23					
Edinburg 8/2, 6											11			88		8			17					
Masonville 8/2, 6											27			10		27			152					
Seabrook 8/2, 6											12			10		18	1	4	21					
NORTH DAKOTA																								
Fargo 7/31-8/6				1									16	18					2					
Bowman 7/31-8/6				1									11	1					4					
Williston 7/31-8/6													38	2					1					

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

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LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap *	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chortizetes auxiliaris (grass cutworm)	Heliothis zea (corn earworm)	Peridroma saucia (variegated cutworm)	Pyrausta nubilalis (European corn borer)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops**
SOUTH CAROLINA												
Charleston 8/2-8				2		0	0	10	0	33	0	
Clemson 7/17-23							0	95				
Clemson 7/24-30				2			2	78	1	2		
Clemson 7/31-8/6							1	83		6	1	
SOUTH DAKOTA												
Brookings 7/29-30, 8/2-4			BL	11		11	sp. 49			19		
TENNESSEE (County)												
Knox 7/27-8/2				9			38	102	2	52		
TEXAS												
Waco 7/31-8/6				5		3	80	6		1	16	203
WISCONSIN												
Platteville 7/28-8/2			BL	6			0	19		11		
Darien 7/27-8/2			BL				0			31		
Janesville 7/27-8/2			BL				0			13		
Evansville 7/27-8/2			BL				0			16		
Mazomanie 7/26-8/1			BL	4			1	5		4		
Middleton 7/28-8/3			BL	2	15		0	6		4		
Madison 7/28-8/3	43-81		BL	42	21		0	14		44		
De Forest 7/27-8/2			BL	4			0	4		8		
Arlington 7/27-8/2			BL				1			39		
Columbus 7/27-8/2			BL				0			6		
Wayne 7/27-8/2			BL				0			29		
Theresa 7/27-8/2			BL				0			12		
Nenno 7/27-8/2			BL				0			30		
Eden 7/27-8/2			BL				0			34		
Oakfield 7/27-8/2			BL				0			25		
Fox Lake 7/27-8/2			BL				1			25		
Beaver Dam 7/27-8/2			BL				1			31		
Danville 7/27-8/2			BL				0			33		
Clyman 7/27-8/2			BL	2			2			10		
Hancock 7/23-30			BL	13			0			27		
Cedar Grove 7/27-8/2			BL	2			0			35		
Waldo 7/27-8/2			BL				0			56		
WYOMING												
Cheyenne 6/29-7/5				17	106			43		105		
Cheyenne 7/6-12				3	40			22		29		
Laramie 6/19-25				1	141			49		204		
Laramie 6/26-7/5				4	5			26		50		

	Ostrinia nubilalis (European corn borer)	Proscopera quisquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)
WISCONSIN					
Platteville 7/28-8/2	4				
Darien 7/27-8/2	1				
Janesville 7/27-8/2	0				
Evansville 7/27-8/2	0				
Mazomanie 7/26-8/1	8				
Middleton 7/28-8/3	0				
Madison 7/28-8/3	3				
De Forest 7/27-8/2	0				
Arlington 7/27-8/2	1				
Columbus 7/27-8/2	0				
Wayne 7/27-8/2	0				
Theresa 7/27-8/2	0				
Nenno 7/27-8/2	0				
Eden 7/27-8/2	1				
Oakfield 7/27-8/2	1				
Fox Lake 7/27-8/2	1				
Beaver Dam 7/27-8/2	6				
Danville 7/27-8/2	2				
Clyman 7/27-8/2	7				
Hancock 7/23-30	2				
Cedar Grove 7/27-8/2	11				
Waldo 7/27-8/2	2				

* BL = blacklight; I = incandescent; MV = mercury vapor; O = other

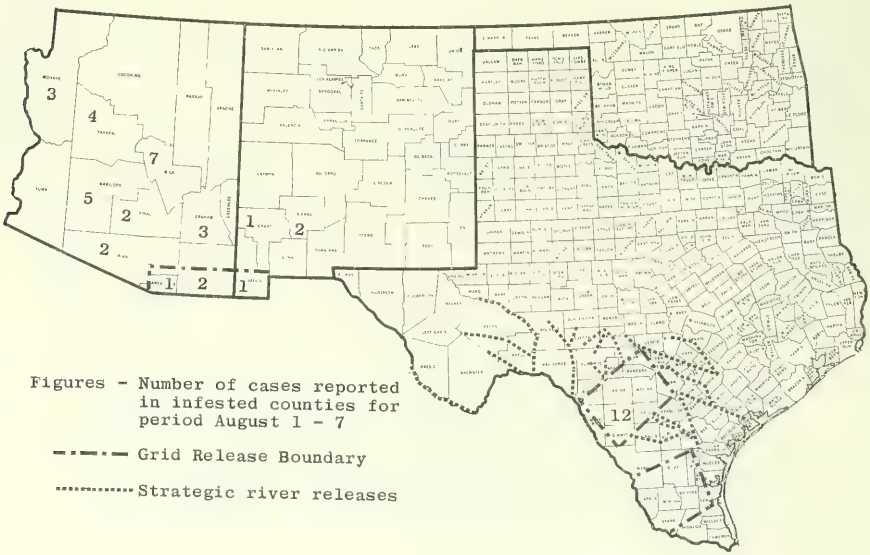
** alf. = alfalfa; beet = garden beet and/or sugar beet; cole = cole crops (crucifers); cott. = cotton; FC = field corn; grain = small grains; leg. = legumes (unspecified); lett. = lettuce; pean. = peanut; pepp. = pepper; pot. = potatoes; SC = sweet corn; sol. = solanaceous plants (unspecified); soy. = soybean; TC = truck crops (unspecified or mixed); tob. = tobacco; tom. = tomato.

STATUS OF THE SCREW WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period August 1-7, a total of 45 cases was reported in the Southwestern Eradication Area, as follows by States and counties: TEXAS - Zavala 12; NEW MEXICO - Hidalgo 1, Grant 1, Sierra 2; ARIZONA - Mohave 3, Yavapai 4, Gila 7, Maricopa 5, Pinal 2, Pima 2, Santa Cruz 1, Cochise 2. The Republic of Mexico reported 111 cases: Baja California Norte 1, Baja California Sur 11, Sonora 31, Chihuahua 17, Nuevo Leon 5, Tamaulipas 1, Durango 24, Veracruz 11, San Luis Potosi 1, Sinaloa 6. Sterile screw-worm flies released: Texas 50,086,250, New Mexico 2,800,000, Arizona 12,364,000, California 900,000, the Republic of Mexico 77,688,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding weeks in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	33	2,309	66	4,487	50.00	51.45
1964	1	105	53	4,183	1.88	2.51
1965	45	512	85	3,545	52.94	14.44
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	100	1,372	37	1,294	270.27	106.02
1965	95	2,877	44	1,501	215.90	191.67
Table 2A. Mexican portion of Barrier Zone only.						
1964	100	1,288	18	576	555.55	227.16
1965	66	2,465	14	820	471.42	300.60

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Nebraska (State or District) DURING 1964 (Year)

ATTACKING Potatoes (Commodity or Crop)

A. Pest or pest complex: Potato psyllid, flea beetles, wireworms, grubs, grasshoppers, Colorado potato beetle, leafhoppers, plant bugs, blister beetles

B. Number of acres[a] produced (From CRS)	No.	10,600
C. Average yield per acre[a] (From CRS)	Units/	181 cwt.
D. Price[b] per unit (cwt.)[c] (From CRS)	$/	2.47
E. Acres[a] needing control	No.	9,540
F. Acres[a] treated	No.	8,480
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	20.0
I. Loss in yield, units per acre[a], C x H	Units/	36.2 cwt.
J. Loss in yield, $ per acre[a], D x I	$/	89.41
K. Loss in quality, $ per ----[a]	$/	----
L. Yield loss for all acres[a], (E-F) x I	Units	38,372 cwt.
M. Control cost, $ per acre[a],	$/	6.20
N. Control cost for all acres[a], F x M	$	52,576.00
O. Yield loss for all acres[a], (E-F) x J	$	94,774.60
P. Quality loss for all ----[a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	147,350.60

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

ATTACKING Field beans (Commodity or Crop)

A. Pest or pest complex: Western bean cutworm, Mexican bean beetle, grasshoppers, bean leaf beetle, leafhoppers, aphids

B. Number of acres[a] produced (From CRS)	No.	72,000
C. Average yield per acre[a] (From CRS)	Units/	15.50 cwt.
D. Price[b] per unit (cwt.)[c] (From CRS)	$/	6.80
E. Acres[a] needing control	No.	43,200
F. Acres[a] treated	No.	21,600
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	15.0
I. Loss in yield, units per acre[a], C x H	Units/	2.33 cwt.
J. Loss in yield, $ per acre[a], D x I	$/	15.84
K. Loss in quality, $ per ----[a]	$/	----
L. Yield loss for all acres[a], (E-F) x I	Units	50,328 cwt.
M. Control cost, $ per acre[a],	$/	3.40
N. Control cost for all acres[a], F x M	$	73,440.00
O. Yield loss for all acres[a], (E-F) x J	$	342,144.00
P. Quality loss for all ----[a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	415,584.00

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Paul W. Bergman

Date February 9, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Wisconsin (State or District) DURING 1964 (Year)

ATTACKING Field corn (Commodity or Crop)

A. Pest or pest complex: European corn borer, corn earworm, armyworm, fall armyworm, corn leaf aphid

B. Number of acres[a] produced (From CRS) No. 1,502,000

C. Average yield per acre[a] (From CRS) Units/ 70 bu.

D. Price[b] per unit (bu.)[c] (From CRS) $/ 1.18

E. Acres[a] needing control No. 300,000

F. Acres[a] treated No. 5,200

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 2

I. Loss in yield, units per acre[a], C x H Units/ 1.4 bu.

J. Loss in yield, $ per acre[a], D x I $/ 1.65

K. Loss in quality, $ per ----[a] $/ ----

L. Yield loss for all acres[a], (E-F) x I Units 412,720 bu.

M. Control cost, $ per acre[a], $/ 2.00

N. Control cost for all acres[a], F x M $ 10,400

O. Yield loss for all acres[a], (E-F) x J $ 486,420

P. Quality loss for all ----[a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 496,820

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

ATTACKING Field corn (Commodity or Crop)

A. Pest or pest complex: Soil insects

B. Number of acres[a] produced (From CRS) No. 1,502,000

C. Average yield per acre[a] (From CRS) Units/ 70 bu.

D. Price[b] per unit (bu.)[c] (From CRS) $/ 1.18

E. Acres[a] needing control No. 975,250

F. Acres[a] treated No. 975,250

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 6

I. Loss in yield, units per acre[a], C x H Units/ 4.2 bu.

J. Loss in yield, $ per acre[a], D x I $/ 5.00

K. Loss in quality, $ per ----[a] $/ ----

L. Yield loss for all ----[a], (E-F) x I Units ----

M. Control cost, $ per acre[a], $/ 1.30

N. Control cost for all acres[a], F x M $ 1,267,825

O. Yield loss for all ----[a], (E-F) x J $ ----

P. Quality loss for all ----[a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 1,267,825

R. Percent loss due to each insect in the complex:

Corn rootworms 40; black cutworm 30; wireworms, white grubs, seed-corn maggot, seed-corn beetle, corn root aphid - 30

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
Washington, D. C. 20250

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Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

Volume 15 August 20, 1965 Number 34

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GRASSHOPPERS continue damaging in areas of Oklahoma. RED-LEGGED GRASSHOPPER development slow in Wisconsin; populations 80 percent nymphs, but some mating noted in southern counties. Grasshoppers causing some ragging of corn in Wisconsin and silk feeding on corn reported in Minnesota; crop damage apparently increasing in South Dakota; economic populations indicated in most areas of Nebraska. (p. 955). EUROPEAN CORN BORER second-brood egg laying underway in Nebraska, Wisconsin and Michigan; larvae appearing in corn in Minnesota; stalk and tassel infestations increasingly noticeable in maturing corn in all sections of Maryland. (p. 956). CORN EARWORM and FALL ARMYWORM reported heavy and serious in corn in several States; adult numbers in light traps increasing in Maryland, Delaware and New Jersey. (pp. 956, 957). CORN ROOTWORMS (Diabrotica spp.) continue problem in corn-growing areas. Diabrotica spp. also of concern on other crops in some States. (pp. 958, 968). CORN LEAF APHID populations on corn declining in some areas due to rains, parasites, predators and dispersal; however, some heavy infestations still reported. (p. 959).

SPOTTED ALFALFA APHID heavy on alfalfa in area of Oklahoma; found for first time this season in Wyoming. (p. 960). TARNISHED PLANT BUG of concern on alfalfa in several States. ALFALFA WEEVIL more damaging than usual in Klamath County, Oregon. (pp. 961, 962). BEAN LEAF BEETLE increasing on soybeans in Oklahoma, next larval generation of YELLOW-STRIPED ARMYWORM may damage garden crops in Iowa, and WESTERN YELLOW-STRIPED ARMYWORM increasing in alfalfa seed field area of Utah. (p. 962).

PLUM CURCULIO larvae in cherry fruit worst problem ever noted in Monroe County, New York. (p. 964). VARIEGATED CUTWORM defoliated field of certified potatoes and caused heavy and widespread damage to several crops in western Oregon. A WEBWORM (Loxostege sp.) damaging cucumbers in Oklahoma. Larvae of a LEAF ROLLER MOTH (Platynota stultana) becoming more common in San Joaquin Valley of California. (p. 967). POTATO LEAFHOPPER heavy on lima beans and seriously damaging commercial rhubarb in Wisconsin; heavy on lima beans on Eastern Shore of Maryland; could cause serious damage to beans in New York under present hot, dry conditions. (pp. 968, 969). Damaging cotton along San Joaquin River in California. (p. 973).

BOLL WEEVIL situation remains critical in some cotton areas, but infestation low in other areas. Infestation and migration continue high in some southern areas. BOLLWORMS variable in cotton; light in some areas and increasing in others. (pp. 969-972). Outbreak of FALSE CELERY LEAF TIER possible on cotton in Waukena area of California; growers alerted. (p. 972). LYGUS BUGS of concern on cotton in Southwest. (p. 972).

Damage by BAGWORM more serious than normal in several localities. (p. 978). MOSQUITOES remain troublesome to man and livestock in several areas. FACE FLY activity increased in several areas of Wisconsin and continues serious on cattle throughout South Dakota. HORN FLY also serious on cattle statewide in South Dakota; heavy on cattle in Oklahoma and a problem on cattle in Utah. STABLE FLY major cattle pest in Wisconsin; controls recommended in Wyoming. (pp. 978, 979, 980).

DETECTION

New county records reported included: WESTERN CORN ROOTWORM (Diabrotica virgifera) in Pettis and Henry Counties, Missouri, (p. 958); ALFALFA WEEVIL (Hypera postica) in Franklin and Lamoille Counties, Vermont, (p. 962); RUSTY PLUM APHID (Hysteroneura setariae) in Fresno County, California, (p. 964); HOLLYHOCK WEEVIL (Apion longirostre) in Box Elder County, Utah, (p. 977); and JAPANESE BEETLE (Popillia japonica) in Jefferson County, Indiana, (p. 981).

CORRECTIONS and ADDITIONAL NOTES

See page 982.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 986).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Sweet Corn, Oats, Hay and Peas in Wisconsin in 1964. (pp. 987, 988).

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-AUGUST TO MID-SEPTEMBER 1965

The Weather Bureau's 30-day outlook for mid-August to mid-September calls for temperatures to average above seasonal normals east of the Continental Divide except for near normal in western portions of the Great Plains and near to below normal in the gulf and south Atlantic coast regions. West of the Divide, below normal temperatures are expected except for above normal in the southern Plateau region and along the California coast. Rainfall is expected to be subnormal from the central Plains eastward through the Ohio Valley and the Northeast and also over eastern portions of the Great Basin. Above normal amounts are in prospect over the gulf and south Atlantic coast regions as well as the Pacific coast, the Northwest, and northern portions of the northern Plains. Elsewhere near normal totals are indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

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WEATHER OF THE WEEK ENDING AUGUST 16

HIGHLIGHTS: (1) Heat wave conditions, most areas. (2) Hottest week of season, southern California coast. (3) Beneficial rains, Northeast.

TEMPERATURE: Compared to normal, it was warmest in Glasgow, Montana, and on the southern California coast. At Los Angeles, California, it was the hottest week of the summer with an average temperature of 78°. This was 10° warmer than the previous week and nearly 8° warmer than the average for the previous 5 weeks. East of the Rockies, temperatures averaged below normal in most southern areas and above normal elsewhere. A heat wave (maximum temperatures 90° to 100° or plus) in the lower Great Plains and the Far West at the beginning of the period moved slowly across the Nation. All areas were affected in 2 to 3 days, except that the upper Great Lakes had only one hot day. Richfield, South Dakota, reported 116°. On the 15th, Detroit, Michigan, had its hottest day in 10 years (maximum 97°) and Chicago, Illinois, its hottest night (minimum 74°) since 1922. In the Northeast, weekly average temperatures were 2° to 5° above normal. However, before the hot weather arrived, the Northeast was covered by cool Canadian air with some near record minimum temperatures.

PRECIPITATION: Much of the northeast drought area received beneficial showers. Amounts of 1 to 2 inches were general over most of New England and northern New York. It was the wettest week of the summer in New England. West of the Continental Divide, rainfall from thundershowers was generally 0.25 inch or less. Over the lower Great Plains and along the gulf coast, rain amounts of 1 to 2 inches were common. Rainfall was generally light in the Ohio and middle Mississippi Valleys and over most of the western Corn Belt and northern Great Plains. (Summary supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - OKLAHOMA - Grasshopper adults range 1-12 per square yard on rangeland and 2-30 per square yard in field margins in Grant, Garfield, Major, Woods, Alfalfa and Cimarron Counties; Phlibostroma quadrimaculatum, Melanoplus differentialis (differential grasshopper), M. bivittatus (two-striped grasshopper) and M. packardii (Packard grasshopper) dominant species. Adults range 8-14 per square yard on approximately 25,000 acres of rangeland in Ellis County; Ageneotettix deorum, P. quadrimaculatum and M.packardii dominant species. Adult grasshoppers range 8-14 per square yard on approximately 90,000 acres of rangeland in Atoka, Coal, Latimer, Johnston and Pittsburg Counties, with M. bivittatus, M. differentialis, Mermiria maculipennis and Hesperotettix speciosus dominant species. Unspecified grasshoppers reported moderate to heavy in Garvin, Bryan, Cleveland and Le Flore Counties. (Okla. Coop. Sur.). WISCONSIN - Maturation very slow; in one of most advanced areas of State M. femurrubrum (red-legged grasshopper) still about 80 percent nymphs; of these, most fourth instar. Some mating noted in southern counties. Counts vary, but populations generally quite high in western area where counts range 30-50 per square yard in some fields. Injury mostly not noticeable, although some ragging of corn noted in Spring Green area caused by M. femurrubrum adults and fifth instar nymphs of M. differentialis. Few adults of M. differentialis appearing. Some fields reported heavily damaged by grasshoppers in 2 areas of Green Lake County and some treatment underway in Trempealeau County. Some M. bivittatus adults noted in Oneida and Lincoln Counties, but uncommon. High adult populations of M. sanguinipes (migratory grasshopper) persist along roadsides and field margins in Spring Green area, although very little movement to crops noted. (Wis. Ins. Sur.). MINNESOTA - Silk feeding in corn by grasshoppers very noticeable in some fields in southeast and central districts; silk completely destroyed down to or into husks in some instances, but severe damage occurred only in marginal rows. Grasshoppers found in light numbers in many fields of corn and soybeans, with leaf feeding very apparent. Movement increased sharply as many now winged. Some boll clipping of flax reported in southwest and east central districts, but damage light so far. Fungus disease caused some decline in grasshopper populations in Wright County. M. femurrubrum and M. differentialis affected. No disease observed in M. bivittatus. Predaceous mites present in moderate numbers on grasshoppers in central district. (Minn. Ins. Rpt.).

NORTH DAKOTA - Adult grasshopper populations threatening only in isolated spots. Generally, only late crops may be damaged. (Colberg). SOUTH DAKOTA - Range survey completed in Pennington, Meade and Haakon Counties. Grasshoppers light on large rangeland area north of Wall, Pennington County, and on large area in northwest Haakon County; light and threatening rangeland infestations noted in northeast Haakon County. No economic infestations noted in Meade County, although some light damage observed on rangeland. (Burge, Zimmerman, Aug. 9). Grasshoppers light to moderate in alfalfa in northwest Beadle County, near Wolsey and Bonilla; damage noticeable. Same situation prevails in central and western Hand County near Miller and Ree Heights. (Jones). Grasshoppers light in cropland areas of Ziebach, Dewey, Stanley and Corson Counties, although some "hot spots" noted near McLaughlin and Morristown in northern Corson County. Grasshoppers becoming more noticeable as they reach adult stage, with resultant increase apparent in numbers and damage. Temperatures of 100°F. and over common throughout State during past few days. (Burge, Jones). Grasshoppers averaged 71 per 100 sweeps in second-growth alfalfa held for seed at Brookings, Brookings County. M. femurrubrum and M. bivittatus dominant species. (Walstrom). NEBRASKA - Melanoplus spp. light in field margins in central area. Some concentrations noted in field margins following cutting of alfalfa. Economic populations indicated in most areas checked. (Roselle). UTAH - Controls to be applied to approximately 7,000 acres on Hill AFB, Weber County. Grasshoppers very numerous and 80 percent winged at Scipio and 50 percent winged 5 miles south of Scipio, Millard County. Infestations conspicuous at Holden and some nearby farm areas. Camnula pellucida (clear-winged grasshopper) numerous at Pine Valley, Washington County; 75 percent winged. Grasshoppers numerous on rangeland east of Jensen, Uintah County. (Knowlton). Grasshoppers especially serious in Duchesne County around Neola, Pleasant Valley, 15-20 miles north of Duchesne, and about nearly all communities in county. (Knowlton, Smith).

IDAHO - Several species migrating into late spring crops and gardens from surrounding dry rangeland continue damaging. (Ingee et al.). CALIFORNIA - Camnula pellucida ranges medium to heavy in meadows in local areas of Plumas County. (Cal. Coop. Rpt.).

RED HARVESTER ANT (Pogonomyrmex barbatus) - OKLAHOMA - Reproductive forms swarmed in Watonga area of Blaine County and in Altus area of Jackson County. (Okla Coop. Sur.).

SOD WEBWORMS - NEW YORK - Problem in lawns in Nassau County. (N.Y. Wkly. Rpt., Aug. 9). MICHIGAN - Crambus trisectus larvae damaged large areas of home lawns in Calhoun County; continuous adult flights complicate control efforts. (Newman, Rowe). OREGON - Crambus spp. larvae damaging lawns in Benton County. Heavy adult flights general throughout State. (Capizzi).

SPITTLEBUGS - GEORGIA - Total of 168 adults taken in light trap in Tift County, compared with 172 previous week. Infestation light; increase expected. (Back).

FRIT FLY (Oscinella frit) - NEW MEXICO - Serious problem at golf courses in Dona Ana County; damage most severe in bentgrass greens. Control difficult. (Watson).

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEBRASKA - Adult activity increasing rapidly. Second-generation egg laying underway; egg masses ranged 10-40 per 100 plants near Hastings, Adams County. (Roselle). MISSOURI - Moth flight heavy in Pemiscot County. Infested plants range 30-100 (average 63) percent in New Madrid and Stoddard Counties; range 5-72 percent in central and west central districts. (Keaster, Thomas, Houser). IOWA - Pupation 70 percent and emergence 20 percent in southwest July 26 and from Percival to Whiting; 90 percent of corn susceptible to second-brood egg laying. Pupation averaged 60 percent from Ankeny to Durant July 29. In Calhoun County, 1 egg mass found in 18 fields of corn checked; 120 second-brood egg masses per 100 plants found in another area. Severe damage reported to outside 4-5 marginal rows of corn in every field checked in north central area. (Iowa Ins. Inf., Aug. 2). MINNESOTA - Second-generation larvae appearing on corn in southeast, south central, southwest and west central districts. Moth flights and egg laying moderate. (Minn. Ins. Rpt.). WISCONSIN - Second-brood egg laying underway. Dissections made in Dane County August 11 revealed 20 percent still in fifth stage, 40 percent pupae and 40 percent emergence. Eggs very scarce, with 1 per 50 plants, highest count found in area where number of spring-generation larvae high. Examination of corn in southeast counties showed very low infestations. (Wis. Ins. Sur.). INDIANA - Light trap adult counts continue high in Posey (103), Jasper and St. Joseph Counties. Marked drop in evening temperatures throughout State resulted in smaller collections in all traps. (Everly). MICHIGAN - Second-brood egg masses common in Calhoun County corn; in 5 fields checked August 10, first-brood infestation ranged 20-32 percent. (Newman, Rowe). MARYLAND - Stalk and tassel infestations becoming increasingly noticeable in maturing corn in all sections. (U. Md., Ent. Dept.). DELAWARE - Adult numbers somewhat lower in blacklight trap collections in Sussex County than previous week; averaged 9 per night. (Burbutis, Woodall). NEW YORK - Second-brood moths emerging in Geneva area. Controls should be applied to corn coming into whorl stage. Moths taken in blacklight trap in Hudson Valley July 26; few taken daily first week of August. (N.Y. Wkly. Rpt., Aug. 9).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - From 1 to 5 larvae per plant observed damaging about 5 acres of young corn in 40-acre field in Macon County. (Barwood).

CORN EARWORM (Heliothis zea) - CALIFORNIA - Larvae causing moderate leaf damage to corn in plantings at Santa Paula and Oxnard, Ventura County. (Cal. Coop. Rpt.). ARIZONA - Light to moderate in some alfalfa in areas of Yuma, Maricopa and Pinal Counties. Larvae per 100 sweeps averaged 30 in Gila Valley and Yuma County and 12 in Maricopa and Pinal Counties. Populations decreasing on field and sweet corn in Safford area of Graham County. (Ariz. Coop. Sur.). UTAH - Heavy in market corn in Utah County. (Barlow, Knowlton). COLORADO - Serious on corn in

Hudson area, Weld County; range 0-5 per ear. (Urano). NEW MEXICO - Damaging foliage and tassels of sweet corn in Espanola Valley, Rio Arriba County. (Heninger). OKLAHOMA - Averaged 3 per 10 sweeps in alfalfa checked in Greer County. Averaged 60 per 100 heads in Tillman County sorghum; reported moderate in sorghum in Beckham County and light in Bryan County. Averaged 33 per 100 terminals in peanuts checked in Caddo County and 2 per 100 terminals in Stephens County; reported moderate in peanuts in Bryan and Choctaw Counties. (Okla. Coop. Sur.). MISSOURI - Occasional larva found on soybeans in southeast district. (Houser). ILLINOIS - Moths appearing; egg laying expected on fresh silks of corn. (Ins. Sur. Bull.). ALABAMA - Eggs ranged 0-10 on early silks of each ear in 10-acre field corn entering silking stage in Elmore County. (McQueen). GEORGIA - Caused heavy damage to whorls of millet in Oconee County. (Thomas). NORTH CAROLINA - Reported heavy in several fields of late corn in Lee County. (Haislip, Robertson). VIRGINIA - Light to moderate in field corn in Washington County. (Isakson). Caused medium damage to young corn in tassel and pretassel stages in Loudoun County. (Isakson, Brown). MARYLAND - Ear infestations of 10-25 percent common in maturing sweet corn on upper and middle Eastern Shore. Numbers of moths at light traps above normal. (U. Md., Ent. Dept.). DELAWARE - Adult collections increased in Sussex County blacklight trap collections; averaged 15 per night. Infestations in field corn range 15-30 percent in Kent and Sussex Counties. (Burbutis, Woodall). NEW JERSEY - Increased numbers of adults taken in central area light traps. Growers should prepare to shorten spray application time interval. (Ins.-Dis. Newsltr.). NEW YORK - Single large larva found in 100 ears checked near harvest in unsprayed planting at Poughkeepsie July 30; none found in several plantings in midsilk stage in early August. First moth of season in light trap taken August 7. Moth emergence declining August 9. In Nassau County, 2 moths taken in light trap August 7-8; eggs found on fresh corn silks. Growers advised to go on 2-day schedule for first 3 spray applications. (N.Y. Wkly. Rpt.).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Extremely heavy on corn checked in Jackson County; 3-5 larvae of various sizes noted on most plants. (Okla. Coop. Sur.). NEBRASKA - Generally distributed on corn in southeast quarter of State. Economic damage reported in field of late corn still in whorl stage. Most infestations noneconomic. (Roselle). MISSOURI - Larvae found in 85-90 percent of very late-planted corn in central and west central districts. Pupation approximately two-thirds complete; remaining larvae in last stage. (Thomas). ILLINOIS - Moths increasing in numbers. Producers of hybrid corn varieties should be alert for appearance of eggs and apply controls if necessary. (Ins. Sur. Bull.). NEW YORK - Larvae readily found in whorls of late field of sweet corn at New Paltz August 4. Moths taken in light trap August 7. (N.Y. Wkly. Rpt.). NEW JERSEY - Increased numbers of adults appearing in light trap collections in central area. Growers should prepare to shorten spray application time interval. (Ins.-Dis. Newsltr.). MARYLAND - Generally light to medium in late corn in all sections; infestation 57 percent in one Frederick County field. (U. Md., Ent. Dept.). NORTH CAROLINA - Reported infesting almost every stalk of late-planted corn in Camden County field August 5. Larvae half to three-fourths grown. Det. by D. A. Mount. (Tuten). GEORGIA - Light on Coastal Bermuda grass in Tift County. (Beck). ALABAMA - Larvae range 1-5 per stalk in 10-acre field of corn entering silking stage in Elmore County; feeding heavy. Some pupation underway; 2 larval stages noted. (McQueen).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Larvae causing moderate damage in corn plantings at Oxnard, Ventura County. (Cal. Coop. Rpt.).

SORGHUM WEBWORM (Celama sorghiella) - OKLAHOMA - Reported light to moderate on grain sorghum in Kingfisher County. (Okla. Coop. Sur.).

A SKIPPER (Lerodea eufala) - ARIZONA - Larvae averaged 40 per 100 sweeps in some sorghum fields in Yuma County. (Ariz. Coop. Sur.).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - WISCONSIN - Most adults apparently have emerged in southern counties as only small percentage have yellowish color. Counts ranged 0.1-2 per plant in southeastern counties. Report from Iowa County indicates some damage in fields planted to corn for several consecutive years. (Wis. Ins. Sur.). ILLINOIS - Adults very common in corn in many fields throughout northern half of State. (Ins. Sur. Bull.). OHIO - Adult populations on field corn continue high. Average of 9 adults per plant noted in field in Marion County; equal populations observed in fields in Logan and Henry Counties. Adults primarily in silks of corn; common on other field crops such as soybeans near corn. (Rose). MICHIGAN - Heavy adult population caused 20 percent pollination loss as result of silk feeding in 2 Calhoun County fields of continuous corn; 6-12 adults now found in each remaining silk. Larval damage to roots apparent. (Newman, Rowe). MARYLAND - Adults collected from corn silks in field near Westminister, Carroll County. (U. Md., Ent. Dept.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - MARYLAND - Adults light to moderate on fresh corn silks in Frederick and Talbot Counties. (U. Md., Ent. Dept.). VIRGINIA - Adults noted in fields of corn in Washington County; averaged less than 1 per 10 stalks. (Isakson). GEORGIA - Adults present in fields of peanuts in Early County. Light damage noted on Spanish peanuts harvested in Terrell and Early Counties. (Morgan).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - ARIZONA - Moderate numbers damaging silks of sweet and field corn in Snowflake, Navajo County. (Ariz. Coop. Sur.). WYOMING - Adult emergence underway in corn in Goshen County. Ranged 0-8 per plant in infested fields. Slight damage to silks noted in more heavily infested fields. (Marks). MISSOURI - Adults collected in Pettis County and single female collected in Henry County. These are new county records. (Thomas).

CORN ROOTWORMS (Diabrotica spp.) - MINNESOTA - Adult survey to determine population percentages of D. longicornis (northern corn rootworm) and D. virgifera (western corn rootworm) in southern half of State initiated. Checks in central, east central and southeast districts show D. longicornis greatly predominant; adults ranged 0-17.3 per plant. Heavy silk feeding apparent in high count fields in Houston, Fillmore, Winona, Washington and Wright Counties. Pollination may be poor in some late silking fields in Winona and Fillmore Counties. Movement from corn to flowering alfalfa and sweetclover observed. Lodging and high beetle numbers concurrent. Beetle numbers will decrease as migration or movement increases. Lodging ranged 0-80 percent of plants. (Minn. Ins. Rpt.). SOUTH DAKOTA - Adult counts made at Northern Grain Insects Laboratory at Brookings during past 2 weeks showed D. longicornis dominant species. Adults per plant ranged from 0.45 on July 26 to 7.7 on August 9; 320 plants checked July 26 and 160 plants checked on August 9. Counts of D. virgifera and D. undecimpunctata howardi (southern corn rootworm) much lower. (Jones).

A SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - ARIZONA - Heavy infestations found in corn in Snowflake area of Navajo County. (Ariz. Coop. Sur.). NEW MEXICO - Adults averaged 3-5 per 25 sweep in alfalfa near Socorro, Socorro County. (N.M. Coop. Rpt.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - MARYLAND - Adults causing very conspicuous foliage injury in several fields of late corn in Frederick and Talbot Counties. (U. Md., Ent. Dept.).

A FLEA BEETLE (Disonycha punctigera) - SOUTH DAKOTA - Common on corn throughout State. Minimum of 1 adult per corn plant noted in fields checked in Charles Mix, Tripp, Todd, Stanley, Ziebach, Lawrence, Shannon and Bennett Counties. Adults feeding on silks and kernels of corn also common in alfalfa. (Jones, Nearman).

SAP BEETLES - UTAH - Noted in some market corn in Utah County. (Barlow, Knowlton). WISCONSIN - Glischrochilus quadrisignatus numerous in ears of corn in one field in Janesville area, Rock County. Considerable feeding on kernels near tip noted. This activity somewhat unusual as beetles unusally feed upon fermenting vegetation. (Wis. Ins. Sur.). MICHIGAN - Glischrochilus spp. adults continue

extremely numerous in corn; many found in aphid colonies and remanents of aphid colonies; some present in areas damaged by adults of corn rootworms (Diabrotica spp.). (Newman). NEW YORK - Carpophilus spp. noted in about normal numbers on Hudson Valley sweet corn. (N.Y. Wkly. Rpt., Aug. 9).

JAPANESE BEETLE (Popillia japonica) - NEW YORK - Extremely scarce on sweet corn and in gardens in Hudson Valley. (N.Y. Wkly. Rpt., Aug. 9).

CORN LEAF APHID (Rhapalosiphum maidis) - NEW YORK - Locally abundant on sweet corn in Hudson Valley. (N.Y. Wkly. Rpt., Aug. 9). MARYLAND - Increasing and becoming problem on corn in all sections. Treatments on later corn varieties underway at several locations on Eastern Shore. (U. Md., Ent. Dept.). VIRGINIA - Light in corn in southwestern counties; few winged forms noted. Chrysopa oculata (golden-eye lacewing) and Hippodamia convergens (convergent lady beetle) numerous and feeding on aphids. (Isakson). ALABAMA - Quite heavy on young corn entering silking stage in 10-acre field in Elmore County. (McQueen). OKLAHOMA - Heavy in grain sorghum checked in Pawnee County. (Okla. Coop. Sur.). NEW MEXICO - Light in grain sorghum and corn in Hatch area, Dona Ana County. (Mathews). Minor problem in Curry County milo. (Coppock). COLORADO - Light on corn in Weld County. (Urano). WYOMING - Fields of corn averaged 20 percent infested in Goshen County; causing some concern to growers. (Marks). SOUTH DAKOTA - Remains common on corn northwest of Wolsey, Beadle County. Many predators present. (Jones). IOWA - Some controls applied in Mitchell, Wright and Franklin Counties. One field checked in Mitchell County July 28 showed 19 percent of corn plants free of aphids, 43 percent classed as lightly infested and 38 percent classed as heavily infested with tassels and upper leaves covered with aphids and honeydew. Populations ranged moderate to heavy on most tasselled corn in northern and northwestern areas. (Iowa Ins. Inf., Aug. 2). WISCONSIN - Decreased noticeably on maturing corn in southern area; attributed to parasites, predators, washoff from rains and dispersal by winged forms to smaller, more attractive corn. Numbers decreased most noticeably from silks, but large colonies persist in many tassels. Populations reportedly high in corn in far northwest area and in whorls of corn just tasseling. Some treatment reported in Green Lake County. (Wis. Ins. Sur.). ILLINOIS - Infestations declining; controls probably no longer economical. Lady beetle adults and larvae abundant in many fields of corn; as many as 20 or more per plant noted in occasional field. Other predators also present; many aphids also killed by parasitic wasp; fungus disease killing some aphids. Heavy rains aiding in control. Only extremely late fields of corn not yet pollinated and not having natural controls will profit from control applications. (Ins. Sur. Bull.). INDIANA - Moderate on 1-10 percent of corn plants checked. Heavy infestations reported on 90-100 percent of popcorn plants checked in White and Pulaski Counties. (Matthew). MICHIGAN - Continues to be reported from many counties in corn-growing area of State. Surveys indicate early August rains major benefit in reducing plant injury in several areas. Many winged aphids destroyed by rain. Loss of sap by aphid feeding less severe in situations where soil moisture available. Sprays applied in number of counties. Some applications made under conditions of questionable economic feasibility. (Janes et al.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - NORTH DAKOTA - Counts up to 75 (average 10) per sweep noted in isolated late fields of oats in southwest; harvest well underway. (Thomasson).

GREENBUG (Schizaphis graminum) - NORTH DAKOTA - Populations increased up to 75 (average 10) per sweep in isolated late fields of oats in southwest area where harvest well underway. (Thomasson).

CHINCH BUG (Blissus leucopterus) - OHIO - Activity observed in northwest area; averaged 25 bugs per plant in field of corn in Hancock County. Slight damage apparent on peripheral rows; bugs mainly between ear and outermost sheath of husk on stalk side of ears. (Rose). NEW YORK - Creating problems on lawns in Nassau County. (N.Y. Wkly. Rpt., Aug. 9). NEW JERSEY - Active in many areas of State. (Ins.-Dis. Newsltr.). NEW HAMPSHIRE - Reported active in Claremont, Sullivan County. (Sutherland).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Population not yet economic in panhandle area. No emergence noted from grain sorghum head samples collected in Randall, Swisher, Briscoe, Armstrong, Hall, Donley, Deaf Smith, Castro, Parmer, Oldham, Collingsworth, Wheeler and Potter Counties. Adults increasing in some fields in south plains area. General infestations not present, but spotted, local infestations found in some fields. (Daniels, Rummel, Hogg).

A STEM MINER - OREGON - Caused some damage to field of barley in Klamath County. Larvae fed in stems of plants and prevented heading. (Jendrzejewski).

CRICKETS - MINNESOTA - Very numerous in extreme western part of State. May present problem to swathed grain and flax if harvest delayed. Also reported invading homes in area. (Minn. Ins. Rpt.). ILLINOIS - Should not be as abundant as in past few years; however, if migrations occur, recommended controls should be applied. (Ins. Sur. Bull.).

BROWN WHEAT MITE (Petrobia latens) - UTAH - Injury very light in dryfarming areas of Box Elder, Salt Lake, Tooele and Juab Counties. (Knowlton).

SPIDER MITES - MARYLAND - Heavily damaged some marginal rows of field corn at Pocomoke City, Worcester County. No significant increase in numbers on soybeans noted in southern sections. (U. Md., Ent. Dept.). WISCONSIN - High populations of Tetranychus sp. caused severe damage in field corn in Spring Green area; field planted early and weeds adequately controlled. High incidence of smut also present. (Wis. Ins. Sur.). NORTH CAROLINA - Unspecified species infested 3-acre field of soybeans in Halifax County August 5; probably moved from adjacent weeds. (Peedin, Jones).

PEA APHID (Acyrthosiphon pisum) - MARYLAND - Averaged over 100 per sweep on alfalfa near Churchill, Queen Annes County. (U. Md., Ent. Dept.). INDIANA - Ranged 20-40 per sweep in southern third of State and 5-10 per sweep in central portion of State. (White). WISCONSIN - Populations showed little change since reported in CEIR 15(33):925; however, decreased in some instances. Counts occasionally range as high as 100 per sweep; averaged about 6 per sweep in southeast area. Reports indicate fairly high populations in alfalfa in northwest district. (Wis. Ins. Sur.). MINNESOTA - Counts remain high in alfalfa in all districts. Some yellowing noted on regrowth of recently cut alfalfa; especially noticeable where drought conditions exist. Predator populations increasing but not yet reducing aphid populations. (Minn. Ins. Rpt.). NORTH DAKOTA - Ranged up to 100 per sweep in isolated fields of late alfalfa in southwest area; counts average about 10 per sweep. Harvest well underway in area. (Thomasson). SOUTH DAKOTA - Averaged 1,450 per 100 sweeps of second-growth alfalfa held for seed at Brookings, Brookings County. (Walstrom). NEBRASKA - Ranged 5-31 (average 12) per sweep in Dundy County. (Stevens). WYOMING - Decreasing rapidly in alfalfa in Goshen and Laramie Counties; ranged 125-200 per 100 sweeps. (Marks). NEW MEXICO - Populations mostly light in Chaves County alfalfa. (Kloepfer). Minor problem on seed alfalfa in Dona Ana County. (Clayshulte).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Averaged 2,000 per 10 sweeps in alfalfa in Kiowa County, 85 per 10 sweeps in Greer County and 5 per 10 sweeps in Grady County. Reported moderate to heavy in Blaine, Kingfisher and Garvin Counties. (Okla. Coop. Sur.). MISSOURI - Ranged 50-300 per 100 sweeps in alfalfa surveyed in east central and southeast districts. (Houser). KANSAS - Very light in Riley County alfalfa; ranged 5-10 per 25 sweeps. (Brooks, Simpson). COLORADO - Infestations have not developed on alfalfa in northeast area to August 12. (Urano). WYOMING - Adults and nymphs noted for first time this season near Torrington, Goshen County; ranged 0-50 per 100 sweeps in fields surveyed. First found in State in this area in 1964. (See CEIR 14(48):1253). Increased survey effort to be made to determine extent of infestation. (Marks). NEBRASKA - Ranged 1-46 (average 15) per sweep in Dundy County. (Stevens). WISCONSIN - Some decrease occurred in few fields of alfalfa and populations about half those of previous week in several fields. Numbers unchanged in most fields, however. (Wis. Ins. Sur.).

CLOVER APHID (Anuraphis bakeri) - IDAHO - Light on red clover in Middleton area, Canyon County. (Bechtolt, Homan).

TARNISHED PLANT BUG (Lygus lineolaris) - OKLAHOMA - Averaged 9 per 10 sweeps in Greer County alfalfa; light in Kiowa County. (Okla. Coop. Sur.). KANSAS - Averaged 18 per 25 sweeps in McPherson County alfalfa. (Brooks, Simpson). MICHIGAN - Adults ranged 1-10 (average 3.7) per sweep in 5 Ingham County fields of alfalfa; also common on corn in Calhoun County. (Newman). INDIANA - Adults average 2 per sweep in alfalfa in southern two-thirds of State. (White). OHIO - Most numerous plant bug species on alfalfa in north central area, although counts averaged less than 1 per sweep. All stages noted, but not abundant in field of field corn in Hancock County. (Rose). MARYLAND - Adults conspicuous on fresh corn silks in several fields on Eastern Shore. (U. Md., Ent. Dept.).

LYGUS BUGS (Lygus spp.) - IDAHO - Range up to 11 per sweep in alfalfa seed fields in Arena Valley, Canyon County; first and second-stage nymphs comprise 80 percent of population. (Waters). UTAH - Adults and nymphs remain numerous in much alfalfa in Fillmore-Holden and Delta-Deseret areas, Millard County. Conspicuous adult flight, 90 percent L. elisus, attracted to lights in Roosevelt area, Duchesne County, August 11. (Knowlton). ARIZONA - Nymphs continue heavy in alfalfa in Maricopa, Pinal and Yuma Counties; range 300-1,000 per 100 sweeps. (Ariz. Coop. Sur.). NEW MEXICO - Averaged 1-5 adults and nymphs per 25 sweeps in Socorro County alfalfa. (Mathews). Light to moderate infestations found in alfalfa in Chaves County. (Kloepfer).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - SOUTH DAKOTA - Averaged 331 per 100 sweeps in second-growth alfalfa held for seed at Brookings, Brookings County. (Walstrom). INDIANA - Adults averaged 2 per sweep in southern third and 1 per sweep in central third of State. Immature forms averaged 4 per sweep in southern area and 2 per sweep in central third of State. (White).

GREEN STINK BUG (Acrosternum hilare) - MISSOURI - Adults per 100 sweeps on soybeans range 0-5 in east central district and 0-9 in southeast district. (Houser).

POTATO LEAFHOPPER (Empoasca fabae) - NEW JERSEY - Ranged 52-1,096 (average 355) per 100 sweeps in central area alfalfa August 13. (Ins.-Dis. Newsltr.). DELAWARE - Averaged 5 per 10 sweeps on soybeans and alfalfa in most areas. (Burbutis, Woodall). MARYLAND - Populations continue generally high on alfalfa in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). OHIO - Populations continue moderate in northern part of State. Averaged over 3 per sweep in Marion County alfalfa and ranged 1-2 per sweep in Wyandot County soybeans. (Rose). MICHIGAN - Adults and nymphs ranged 0-15 (average 6.2) per sweep in alfalfa in 7 Ingham County fields; high percentage in adult stage August 11. (Dowdy). WISCONSIN - Populations vary considerably from field to field depending on growth of alfalfa. Populations high in few areas with wide dispersal evident. (Wis. Ins. Sur.). SOUTH DAKOTA - Averaged 100 per 100 sweeps of second-growth alfalfa held for seed at Brookings, Brookings County. (Walstrom). NEBRASKA - Averaged 3 per sweep in alfalfa in southwest district. (Stevens). MISSOURI - Ranged 30-50 per 100 sweeps in alfalfa in east central and southeast districts. (Houser).

THREE CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Counts per 10 sweeps in alfalfa averaged 24 in Kiowa County and 3 in Grady County. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - OREGON - Causing more damage than usual in Klamath County. Heavy infestations believed result of later than normal cutting of alfalfa due to late spring. (Jendrzejewski). UTAH - All stages still found in alfalfa in Uintah, Duchesne and Weber Counties. (Knowlton). SOUTH DAKOTA - Numbers reduced in alfalfa in Spearfish area, Lawrence County, compared with 4 weeks ago; averaged 25 larvae and 5 adults per 100 sweeps. First to fifth-stage larvae observed, although fourth and fifth stages predominate. (Jones). MARYLAND - Larvae present in most alfalfa checked in Frederick and Queen Annes Counties; ranged 0-15 per sweep. Heavy adult numbers observed in one Queen Annes County

field. (U. Md., Ent. Dept.). VERMONT - Larvae collected at Colchester, Essex and Underhill, Chittenden County; Fairfax, Franklin County; and Cambridge, Lamoille County. Adults found at Essex Junction, Chittenden County. Franklin and Lamoille are new county records. (MacCollom, Aug. 9).

BEAN LEAF BEETLE (Cerotoma trifurcata) - OKLAHOMA - Increasing in soybeans. Moderate populations reported damaging this crop in Le Flore County. (Okla. Coop. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - DELAWARE - Noted on soybeans in one area of Kent County. (Burbutis, Woodall).

BLISTER BEETLES (Epicauta spp.) - MINNESOTA - E. pennsylvanica (black blister beetle) very numerous in Wright County alfalfa. (Minn. Ins. Rpt.). SOUTH DAKOTA - E. pennsylvanica ranged 15-30 per square yard in alfalfa in Hand and Beadle Counties. (Jones). IDAHO - Feeding damage by adults of E. puncticollis reported throughout State. (Portman et al.).

ALFALFA CATERPILLAR (Colias eurytheme) - MARYLAND - Larval counts above normal on alfalfa in Frederick and Queen Annes Counties; averaged up to 3 per sweep. (U. Md., Ent. Dept.). MICHIGAN - Larvae, possibly this species, caused serious damage to field of red clover in Marquette County. (Nyquist, Newman). WISCONSIN - Adults of this species and C. philodice (clouded sulphur) numerous in alfalfa in southern areas. Larvae common but not unusually abundant. (Wis. Ins. Sur.).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Larvae ranged 2-3 per 10 sweeps in soybeans and alfalfa in Kent and Sussex Counties. (Burbutis, Woodall). NORTH CAROLINA - Averaged 4 per foot of row in field of soybeans in Columbus County; very few noted in 8 other fields in County. (Mount).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - KANSAS - Very light numbers present in most alfalfa checked in eastern half of State. Rarely more than 1 per 25 sweeps. (Simpson). IOWA - Large numbers of moths appearing in light trap at Dubuque. Next larval generation may damage garden crops. (Iowa Ins. Inf., Aug. 2).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - UTAH - Increasing on alfalfa, especially in seed field areas, in eastern and western Millard County and on many farms in Box Elder and Cache Counties. Controls needed at many locations. (Knowlton, Davis, Hall). Damaging alfalfa and gardens in farm areas of these counties. (Knowlton).

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Caused economic damage to alfalfa in Klamath County; however, most loss to late cuttings. (Jendrzejewski). UTAH - Damaged 5 fields of alfalfa south of Circleville, Piute County. Larvae mostly full grown; pupation underway. (Knowlton, Chapman).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - GEORGIA - Moderate on peanuts in southern part of State. (French). OKLAHOMA - Counts per 100 terminals averaged 47 in peanuts checked in Greer County, 7 in Caddo County and 18 in Stephens County. Reported light to heavy on this crop in Bryan County, depending on location. (Okla. Coop. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - GEORGIA - Light on soybeans in Tift County. (Beck).

FORAGE LOOPER (Caenurgina erechtea) - KANSAS - Averaged 12 per 25 sweeps in McPherson County alfalfa. (Brooks, Simpson).

CUTWORMS - UTAH - Damaging seed alfalfa in Freedom area of Sanpete County. (Thornley, Knowlton). GEORGIA - Moderate to heavy on peanuts in Terrell County. (Morgan).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Causing moderate to heavy damage to alfalfa in some areas of Garvin County. (Okla. Coop. Sur.).

THRIPS - UTAH - Very numerous in blossoming alfalfa seed fields at Deseret, Millard County. (Knowlton).

A SUNFLOWER MOTH (Suleima helianthana) - CALIFORNIA - Larvae medium in domestic sunflowers in Turlock, Stanislaus County. (Cal. Coop. Rpt.).

A LEPIDOPTEROUS BORER - MINNESOTA - Moth flight and egg laying underway; lighter than normal on wildrice. (Minn. Ins. Rpt.).

FRUIT INSECTS

APPLE MAGGOT (Rhagoletis pomonella) - WISCONSIN - Adult populations appear at peak in Door County. Heavy damage reported in unsprayed orchards in Fond du Lac County. (Wis. Ins. Sur.). NEW JERSEY - Two sticky boards at Hardingville yielded 51 adults August 13. (Ins.-Dis. Newsltr.). NEW YORK - Adults still emerging in Monroe County, although definite downward trend noted since August 4. Emergence continues in Niagara County, but numbers lower; males generally outnumber females. Apparently 2 emergence peaks occurred; about July 23 and August 2-5. July peak larger, but occurred when females considerably outnumbered males. (N.Y. Wkly. Rpt., Aug. 9). VERMONT - Adults abundant in abandoned blocks. (MacCollom, Aug. 9).

CHERRY MAGGOT (Rhagoletis cingulata) - NEW YORK - Problem in several Wayne County orchards; larvae easily found in fruit on tree in some orchards. Problem apparently result of too long period between sprays with phosphates. Troublesome in few Monroe County orchards. (N.Y. Wkly. Rpt., Aug. 9).

CODLING MOTH (Carpocapsa pomonella) - CALIFORNIA - Heavy in apple fruit in Yucaipa, San Bernardino County. (Cal. Coop. Rpt.). NEW MEXICO - Apples in untreated orchards in Espanola Valley and near Santa Fe, Santa Fe County, appear 80-90 percent infested by larvae. (Heninger). UTAH - Adults flying in Utah County since July 30. (Barlow). NEW JERSEY - Recent damage noted in 2 apple orchards in Burlington County; controls recommended. (Ins.-Dis. Newsltr.). NEW YORK - Second-brood emergence in Monroe County underway since August 4; began July 29 in Niagara County, but relatively slow due to cool weather to August 6. (N.Y. Wkly. Rpt.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - NEW YORK - Adults continue appearing in Niagara County bait traps; eggs found in orchards. (N.Y. Wkly. Rpt., Aug. 9). NEW JERSEY - Total of 13 adults taken August 9 and 11 adults August 13 at Glassboro. (Ins.-Dis. Newsltr.). CALIFORNIA - Medium to heavy in bait pans in Rocklin area, Placer County. (Cal. Coop. Rpt.).

PEACH TWIG BORER (Anarsia lineatella) - OREGON - More abundant than usual in Umatilla County and in Willamette Valley. Damage to unsprayed peach orchards as high as 25 percent in some areas. (Every).

CORN EARWORM (Heliothis zea) - COLORADO - Larvae damaging peach fruit in western section. (Quist).

ORCHARD MITES - NEW YORK - Expected problem did not develop in Wayne County orchards, although few individual problems exist. Thorough applications of oil alone giving good control. Serious mite situation of 2 weeks ago in Dutchess County subsided after application of several sprays and cool nights. Panonychus ulmi (European red mite) populations continue serious in Monroe County. P. ulmi quite severe in some Niagara County orchards. (N.Y. Wkly. Rpt.). NEW JERSEY - P. ulmi and Tetranychus telarius (two-spotted spider mite) continue present in many apple orchards throughout State. (Ins.-Dis. Newsltr.). UTAH - Mite damage generally moderate over most of State this season. (Davis, Knowlton). T. telarius

now predominates over Tetranychus mcdanieli in 2 commercial apple orchards at Orem, Utah County, and Midvale, Salt Lake County. (Davis). CALIFORNIA - T. telarius and Bryobia rubrioculus medium on pear trees in Earlimart, Tulare County. (Cal. Coop. Rpt.).

PLUM CURCULIO (Conotrachelus nenuphar) - NEW YORK - Larvae troublesome to large number of cherry growers in Monroe County. Some larvae in fruit creating worst problem ever noted in Monroe County; serious error made in timing of sprays. (N.Y. Wkly. Rpt., Aug. 9).

RUSTY PLUM APHID (Hysteroneura setariae) - CALIFORNIA - Medium on plum trees in Fresno, Fresno County. This is a new county record. (Cal. Coop. Rpt.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Light to heavy on twigs and under bark of apple trees near Velarde, Valencia County. Heaviest on young trees. (Heninger).

ONE-SPOT STINK BUG (Euschistus variolarius) - IDAHO - Feeding damage noted on dooryard pears at Georgetown. (Alldaffer).

PEAR-SLUG (Caliroa cerasi) - COLORADO - Larval damage general on plum and cherry throughout Denver. (Swingle). NEW MEXICO - Larvae, probably this species, light to heavy on plum, cherry and pear foliage. Damage very noticeable in some orchards. (Heninger).

LEAFHOPPERS - UTAH - Severely discolored foliage of some varieties of grapes at Moab, Grand County. (Knowlton). Moderately discoloring some grapes and Virginia-creeper in Utah County. (Barlow, Knowlton).

GRAPE ROOT BORER (Vitacea polistiformis) - NEW JERSEY - Flight near peak; controls recommended. (Ins.-Dis. Newsltr.).

JAPANESE BEETLE (Popillia japonica) - NEW JERSEY - Controls recommended on infested blueberries. (Ins.-Dis. Newsltr.).

CRANBERRY FRUITWORM (Acrobasis vaccinii) - MASSACHUSETTS - Moth activity declined in southeast area, but some egg laying continues in cranberry bogs on warm evenings. (Tomlinson, Aug. 6).

A NOTODONTID MOTH (Datana drexelii) - NEW HAMPSHIRE - Young larvae, probably this species, noted on blueberry at Durham. (Mason).

BLUEBERRY MAGGOT (Rhagoletis mendax) - MASSACHUSETTS - Adults very active in southeast area. (Tomlinson, Aug. 6).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Damaging foliage of cherry, pear, and apple trees in Velarde area, Rio Arriba County. Webs range 2-10 or more per tree. (Heninger). GEORGIA - General on pecans in south section. (Fletcher). ALABAMA - Moderate to heavy on pecans in Covington County. (Linden).

WALNUT CATERPILLAR (Datana integerrima) - GEORGIA - General on pecans in south section. (Fletcher). ALABAMA - Larvae causing light to medium damage to foliage of several pecan trees near Lockhart, Covington County. (Stephenson). OHIO - Light on black walnut tree in Allen County near Lima; larvae about three-quarters inch long. (Rose).

FILBERTWORM (Melissopus latiferreanus) - OREGON - Peak adult emergence July 29-August 2 in Lane County. (Hatch).

HICKORY SHUCKWORM (Laspeyresia caryana) - GEORGIA - General on pecans in south section. (Fletcher).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Continues light on pecans in Cleveland County. (Okla. Coop. Sur.).

BLACK-MARGINED APHID (Monellia costalis) - MARYLAND - Heavy on pecan trees at Glenn Dale, Prince Georges County. Comparatively rare M. nigropunctata found on pecan in same location. (U. Md., Ent. Dept.).

BLACK PECAN APHID (Melanocallis caryaefoliae) - ALABAMA - Heavy in orchard in Elmore; lesser number of yellow species present. Considerable number of both species widespread in Mobile County. (Hagler, Vickery et al.).

WALNUT APHID (Chromaphis juglandicola) - OREGON - Heavy in English walnut orchards of Douglas County; causing excessive amounts of honeydew to drip. (Vertrees, Passan).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Emergence heavy in Orange County and medium in Ukiah, Mendocino County. (Cal. Coop. Rpt.).

MITES - GEORGIA - Unspecified species moderate on pecan foliage in Grady County (George); causing scorching of leaves in south section (Fletcher, French).

CORN SAP BEETLE (Carpophilus dimidiatus) - ARIZONA - Adults damaging figs in Tucson area, Pima County. (Ariz. Coop. Sur.).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Continues heavy on citrus on Yuma Mesa, Yuma County. Controls necessary. (Ariz. Coop. Sur.).

Citrus Insect Situation in Florida - End of July - CITRUS RUST MITE (Phyllocoptruta oleivora) infested leaves in 42 percent of groves (norm 71 percent); 22 percent economic (norm 50 percent); and infested fruit in 52 percent of groves (norm 73 percent); 27 percent economic (norm 53 percent). Population lowest on record for end of July, yet heavy infestations occur in all districts. Buildup on fruit will continue and general decrease not expected until late August. Highest districts south, west and central. CITRUS RED MITE (Panonychus citri) infested 79 percent of groves (norm 68 percent); 46 percent economic (norm 43 percent). Population reached summer peak below normal level and 2 weeks later than usual. Decrease will occur later than normal but will drop population to low level by September. Highest districts north, east, south and west. TEXAS CITRUS MITE (Eutetranychus banksi) infested 75 percent of groves (norm 67 percent); 58 percent economic (norm 41 percent). Population decreased greatly from early July peak but is still at record high level. Further decrease into moderate range expected. Highest districts west, north, central and east. BLACK SCALE (Saissetia oleae) infested 87 percent of groves (norm 56 percent); 62 percent economic (norm 33 percent). Population decreased from record high summer peak in mid-July but will continue above normal. Will gradually decrease to low range by October. Although new generation of crawlers now present, very few will settle and become destructive. All districts high. GLOVER SCALE (Lepidosaphes gloverii) infested 74 percent of groves; 25 percent economic. Population will remain in high range; little change expected. Highest districts south, east and central. PURPLE SCALE (Lepidosaphes beckii) infested 72 percent of groves; 7 percent economic. CHAFF SCALE (Parlatoria pergandii) infested 68 percent of groves; 6 percent economic. YELLOW SCALE (Aonidiella citrina) infested 61 percent of groves; 14 percent economic. None of these last named 3 scales are in high range and very few infestations are heavy. Little change expected. Adult WHITEFLIES increased in past 2 weeks and now occur in 71 percent of groves. Destructive larval forms expected to exceed normal abundance. Highest districts east and central. Populations of MEALYBUGS will decrease further but remain above normal level. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred)).

TRUCK CROP INSECTS

VARIEGATED CUTWORM (Peridroma saucia) - OREGON - Defoliated field of certified potatoes; caused heavy and widespread damage to truck crops, gardens and legumes in western area. Entering tubers in some potato fields of Marion County. (Larson).

TOMATO FRUITWORM (Heliothis zea) - NEW MEXICO - Larvae and damage noted in commercial tomato fields and home gardens in Dona Ana County. (Clayshulte). UTAH - No eggs found on tomato leaves in surveys of canning tomatoes in areas of Box Elder through Utah Counties. (Dorst).

HORNWORMS (Protoparce spp.) - IDAHO - P. quinquemaculata (tomato hornworm) caused extensive feeding damage to tomato fruit and foliage in Fruitland area. (Homan). NEW MEXICO - Larvae and damage noted in commercial tomato fields and home gardens in Dona Ana County. (Clayshulte). DELAWARE - Adults common in blacklight trap collections in Sussex County; averaged 7 per night. (Burbutis, Woodall).

CUTWORMS - NEW JERSEY - Injured potato tubers noted in Cumberland County. (Ins.-Dis. Newsltr.).

STALK BORER (Papaipema nebris) - RHODE ISLAND - Heavy in tomato in garden in Narragansett, Washington County. (Mathewson).

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - No eggs found on peppers examined in Dane, Walworth and Kenosha Counties. (Wis. Ins. Sur.).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - NEW YORK - Larvae appearing in potato fields in Suffolk County. (N.Y. Wkly. Rpt., Aug. 9). DELAWARE - Common on some potatoes and tomatoes in Sussex County; present on peppers locally in Kent County. (Burbutis, Woodall). MARYLAND - Problem continues in some tomato fields on lower Eastern Shore. (U. Md., Ent. Dept.). IDAHO - Severely damaging foliage of untreated potato field at Melba; adult feeding quite noticeable on tomato plants in Notus. (Homan, Thornton).

OREGON WIREWORM (Melanotus oregonensis) - IDAHO - Larvae collected July 13; attacking potatoes in soil south of Glenns Ferry. Land recently taken out of sagebrush and now in irrigated cultivation. (Homan, Thornton).

POTATO FLEA BEETLE (Epitrix cucumeris) - UTAH - light to moderate in Utah and Juab Counties on potatoes. (Knowlton, Barlow).

WESTERN BLACK FLEA BEETLE (Phyllotreta pusilla) - IDAHO - Very high population; no apparent damage to potatoes at Mountain Home. (Homan).

POTATO APHID (Macrosiphum euphorbiae) - MARYLAND - Very heavy on tomatoes near Rocks, Harford County. (U. Md., Ent. Dept.). CALIFORNIA - Medium on potato plantings in Kerman, Fresno County. (Cal. Coop. Rpt.).

Aphids on Potatoes in Maine - Populations range small to appreciable in untreated or inadequately treated plantings at Presque Isle and vicinity, Aroostook County. Number of all species increased approximately 2.5 times in untreated plots; 12.5 on 3 leaves per plant (top, middle, bottom) with all plants infested. Large populations in one field. Small numbers becoming established in some plantings treated at planting with systemic insecticides. Macrosiphum euphorbiae (potato aphid) predominates followed by Myzus persicae (green peach aphid), Aphis nasturtii (buckthorn aphid) and Acyrthosiphon solani (foxglove aphid). Sharp increase in dead Myzus persicae and Macrosiphum euphorbiae affected by entomogenous fungi on potato plants on Aroostook Farm near end of week. (Shands et al.).

POTATO PSYLLID (Paratrioza cockerelli) - WYOMING - Adults increasing in potato fields in Goshen and Laramie Counties; range 0-16 (average 6) per 100 sweeps. Nymphs average 6 per 100 sweeps. Controls recommended on late-planted potatoes. (Marks).

PEPPER MAGGOT (Zonosemata electa) - NEW JERSEY - Damage evident in southern area on peppers; too late in season for controls. Six sticky board traps yielded 19 adults August 13 at Cedarville. (Ins.-Dis. Newsltr.).

BROWN STINK BUG (Euschistus servus) - ALABAMA - Considerable number of adults damaging tomatoes in home gardens in Morgan County. (Hagler et al.).

VINEGAR FLIES (Drosophila spp.) - NEW JERSEY - Average number per 3-inch slit on August 9: Bridgeton 75, Salem 21, Swedesboro 100+, Hammonton 49, Burlington 9, Mercerville 100+ and Edinburg 7. (Ins.-Dis. Newsltr.).

SLUGS - RHODE ISLAND - Damaging tomato fruit in commercial planting in North Kingstown, Washington County. (Mathewson).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Heavy on garden lima beans in several locations on Eastern Shore. (U. Md., Ent. Dept.). VIRGINIA - Light to medium, mostly light, in field peas and snap beans throughout Pittsylvania County; damage appearing on snap beans. (Saucier, Ford). ALABAMA - Heavy and continues damage to snap and butter beans especially in Bibb, Elmore, Autauga and Tallapoosa Counties. (Odom, Camp et al.). MICHIGAN - Adults and larvae generally low in most bean areas; pupae and newly emerged adults observed in Gratiot County August 10. (Bierlien, Janes).

THRIPS - DELAWARE - Several species starting increase again on lima and snap beans in areas of Sussex County. (Burbutis, Woodall).

SEED-CORN MAGGOT (Hylemya platura) - CALIFORNIA - Caused medium damage to several acres of pole beans in Chula Vista, San Diego County. (Cal. Coop. Rpt.).

BEAN APHID (Aphis fabae) - MARYLAND - Light on pole lima beans at Centreville, Queen Annes County. (U. Md., Ent. Dept.).

CABBAGE APHID (Brevicoryne brassicae) - DELAWARE - Common on cabbage locally in New Castle County. (Burbutis, Woodall). WISCONSIN - Colonies remain low on cabbage in southeast, range 0-1 percent. (Wis. Ins. Sur.).

BEET ARMYWORM (Spodoptera exigua) - NEW MEXICO - First instars, probably this species, found in cabbage fields in Dona Ana County. (Clayshulte).

SQUASH BEETLE (Epilachna borealis) - NORTH CAROLINA - Present on cucumbers in home garden in Wayne County. (Baker, Jones).

SQUASH BUG (Anasa tristis) - OKLAHOMA - Moderate to heavy on pumpkins in Washita County. (Okla. Coop. Sur.).

A WEBWORM (Loxostege sp.) - OKLAHOMA - Heavy and damaging 72-acre field of cucumber seedlings in Jackson County. (Okla. Coop. Sur.).

GRASSHOPPERS - UTAH - Causing some damage to sugar beet foliage in Price, Carbon County. (Dorst).

BEET WEBWORM (Loxostege sticticalis) - WYOMING - Spotty in Huntley area, Goshen County; controls required. Infested fields ranged 8-15 larvae per plant. (Marks). UTAH - Adults moderately numerous in blacklight trap catches at Benjamin, Utah County. (Knowlton).

STRAWBERRY LEAF ROLLER (Ancylis comptana fragariae) - VERMONT - Second-generation larvae noted in Caledonia County. (MacCollom, Aug. 9).

A LEAF ROLLER MOTH (Platynota stultana) - CALIFORNIA - Larvae medium in strawberry fruit in Tulare, Tulare County. Infesting sugar beets in Fresno County. Becoming more common on San Joaquin Valley crops. (Cal. Coop. Rpt.).

MITES - NEW JERSEY - Easily found in strawberries not recently treated; heaviest in new beds with tender growth. Treatments urged. (Ins.-Dis. Newsltr.).

A LARGID BUG (Largus cinctus californicus) - CALIFORNIA - Nymphs heavy on blackberry vines in Sebastopol, Sonoma County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - NEW JERSEY - Increasingly important on broccoli in southern area; controls recommended. (Ins.-Dis. Newsltr.). DELAWARE - Present on potatoes in eastern Kent County and common on cabbage in New Castle County. Undetermined loopers present to common on carrots in New Castle County. (Burbutis, Woodall). MARYLAND - Light to medium on commercial tomatoes on Eastern Shore; generally increasing on cole crops in all sections. (U. Md., Ent. Dept.). ALABAMA - Severely damaged collards in home garden adjoining cotton field in Bibb County; 10-15 young larvae per leaf. Outbreak followed pupation of T. ni in nearby cotton. (Odom, Camp).

LOOPERS - UTAH - Larvae and eggs common on tomato foliage in Box Elder, Weber, Davis, Salt Lake and Utah Counties on canning field crops. (Dorst, Knowlton).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - MARYLAND - Light in strawberry planting at Beltsville, Prince Georges County. (U. Md., Ent. Dept.). TEXAS - Moderate locally and causing heavy damage to peas in Denton County. (Turney).

FLEA BEETLES - NEW YORK - Populations on crucifers continue much heavier and more persistent than usual. Plants can be severely weakened under present hot, dry conditions. Controls recommended. (N.Y. Wkly. Rpt., Aug. 9). NEW JERSEY - Larvae injured potato tubers in Cumberland County. (Ins.-Dis. Newsltr.). DELAWARE - Phyllotreta cruciferae abundant on horseradish locally in Kent County; rather heavy feeding injury to foliage. (Burbutis, Woodall). NEW MEXICO - Black species damaging cabbage in southern Dona Ana County. (Clayshulte).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ALABAMA - Noted in field peas, potatoes and kudzu in Macon County. (Barwood).

CUCUMBER BEETLES (Diabrotica spp.) - ARIZONA - D. virgifera (western corn rootworm) very light and D. undecimpunctata tenella heavy in cucumbers in Snowflake area, Navajo County. (Ariz. Coop. Sur.). DELAWARE - Adults of D. undecimpunctata howardi (spotted cucumber beetle) common on snap beans in Sussex County; present on carrots in New Castle County. (Burbutis, Woodall).

BLISTER BEETLES - GEORGIA - Defoliating tomatoes in Madison County (Welborn) and damaging tomatoes and lima beans in Banks County. (Lyon). ALABAMA - E. pestifera (margined blister beetle) noted on field peas, potatoes and kudzu in Macon County. (Barwood). OKLAHOMA - Epicauta spp. heavy in home gardens in Love County; moderate in Choctaw County. (Okla. Coop. Sur.). OHIO - Epicauta spp. infested home garden tomatoes in Ross County. (Jones).

GREEN PEACH APHID (Myzus persicae) - NEW YORK - Continues to infest potatoes and poses problem on crucifers in Suffolk County. (N.Y. Wkly. Rpt., Aug. 9). NEW JERSEY - Increasingly important on broccoli in southern area; controls recommended. (Ins.-Dis. Newsltr.). DELAWARE - Present to fairly common on peppers in areas of Kent and Sussex Counties. (Burbutis, Woodall).

MELON APHID (Aphis gossypii) - MARYLAND - Light but building up on cantaloups in Preston and Hurlock areas. (U. Md., Ent. Dept.). NEW MEXICO - Increasing in cabbage fields in Dona Ana County; some growers treating. (Clayshulte).

POTATO LEAFHOPPER (Empoasca fabae) - NEW YORK - Up to 2 nymphs per leaf on beans observed in Geneva area. Can cause serious damage to bean plantings under hot, dry weather conditions now prevalent in area. Growers should plan to spray plantings, especially late beans. (N.Y. Wkly. Rpt., Aug. 9). MARYLAND - Heavy

on several large plantings of snap beans on lower Eastern Shore; light on sweet-potatoes near Salisbury, Wicomico County. (U. Md., Ent. Dept.). WISCONSIN - High populations on lima beans in Rock County and seriously injuring commercial rhubarb planting. Counts relatively low on vegetables such as beans and carrots in southeast section. (Wis. Ins. Sur.).

SPIDER MITES - MARYLAND - Injuring some plantings of cantaloups, lima beans and watermelons on Eastern Shore. (U. Md., Ent. Dept.). OKLAHOMA - Tetranychus spp. damaging tomatoes in home gardens in Love and Cleveland Counties. (Okla. Coop. Sur.). CALIFORNIA - T. telarius (two-spotted spider mite) medium on table beets in Kerman and Selma, Fresno County. (Cal. Coop. Rpt.).

TOBACCO INSECTS

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Populations range light to heavy on tobacco. Considerable spraying underway. (U. Md., Ent. Dept.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Adults increasing on late tobacco in southern sections. (U. Md., Ent. Dept.). VIRGINIA - Below normal on tobacco in Pittsylvania County to August 4. (Dominick).

HORNWORMS (Protoparce spp.) - MARYLAND - Second-brood numbers generally light on tobacco in southern sections. (U. Md., Ent. Dept.). VIRGINIA - Very light on tobacco in Pittsylvania County to August 4. (Dominick).

TOBACCO BUDWORM (Heliothis virescens) - MARYLAND - Light on tobacco checked in St. Marys County. (U. Md., Ent. Dept.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Punctured squares ranged 96-100 percent in 6 untreated fields in Robeson County; many adults noted in fields. Punctured squares ranged 82-92 percent in 6 fields treated 8-10 times. In two Robeson County fields treated regularly throughout season, punctured squares ranged 12-16 percent. (Mount). SOUTH CAROLINA - Weevil migration continues heavy in Florence area. Adults per 100 squares ranged 0-21 (0-1,800 per acre) in treated plots and 5-7 (4,800-12,400 per acre) in untreated plots. Larval infestations ranged 0.8-79 percent in treated plots and 59-100 percent in untreated plots. (Taft et al., Aug. 11). Punctured squares averaged 12 percent for State in treated fields compared with 11 percent in 1964. In untreated fields, punctured squares averaged 61 percent compared with 37 percent at same time in 1964. Migration reported as very heavy. At Pee Dee Experiment Station, punctured squares range 0.2-24.2 percent in treated fields and 83-100 percent in untreated fields. These compare with 0.8-15 percent and 63-82 percent, respectively, for 1964. (Cott. Ltr., Aug. 9). TENNESSEE - Rains very favorable for further weevil increase in regularly infested portion of cotton-growing area. Local migration heavy; weevils found in northern areas not previously infested this season. As many fields "cutting out" and maturing, weevils moving to more attractive fields containing more squares, blooms and small bolls. Considerable boll damage noted in southern tier of counties. Punctured squares ranged 10-100 (average 44) percent in infested fields. Infestation averaged 23 percent compared with 10 percent at same time in 1964. Weevil mortality expected to be low due to rains and larvae "hatching out" in bolls instead of squares. Rank cotton also favorable for weevil development. (Locke, Aug. 5). GEORGIA - Heavy populations migrating in southern area (French); punctured squares average 30-40 percent in untreated cotton in Spalding County (Beckham). Infestations heavy in Jenkins and Colquitt Counties, moderate in Stewart and Webster Counties. (Dekle, Hancock, Smith, Dillard). ALABAMA - Infestation and weevil buildup continue at high level. Higher infestations reported from extreme nothern cotton-growing area. Weevils feeding on bolls where squares no longer available; especially noticeable in Montgomery and Bibb Counties. Young weevils ranged 1-11 per bloom in many areas; reported in 2 fields as far north as Marshall County. (McQueen). MISSISSIPPI - Infestations

continue spotty in delta counties, with some indication of local migration in some areas. Infestation very high in scattered fields, although very low or absent in most fields. (Pfrimmer et al., Aug. 12). LOUISIANA - Infestations spotty; highest counts noted in early planted cotton. Higher infestations expected in young cotton during August; fields not treated closely should be checked. Recommended materials giving excellent control. (Tynes, Aug. 9). ARKANSAS - Controls effective in most fields generally throughout State; infestations reduced to low level. As fruiting decreases and if infestation continues to decline, controls may be stopped if growers watch closely for boll damage. Boll protection may be necessary even though infestation low. In southeast section, infestations continue to decrease; controls very effective in fields where applied; additional increase may be expected as emergence continues and squaring declines; boll protection necessary in most fields now under treatment and fields with low infestation may increase to point boll protection will be very profitable. In east central section, weevils continue to increase in many fields with less than 33 percent of fields above treatment level; emergence will continue for remainder of season; rate of emergence and increase in fields with low infestations depends on weather; boll protection should continue in fields where weevils feeding and laying eggs. In southwest section, infestations above treatment level in over 50 percent of fields; other fields should be watched closely as emergence continues in fields being irrigated or where showers occur. In central section, weevils continue problem in many fields, but controls very effective; some increases expected as emergence continues and squaring declines. In upper Arkansas River Valley section, over half of fields below treatment level; with favorable conditions, fields should be watched closely and protection used where boll damage apparent. In northeast section, weevils above treatment level in more fields this year than in 1964; infestations not exceptionally high but controls holding down infestations in many fields; weevil activity and boll damage should be used to determine continuation of controls after fields "cut out". (Barnes, Roberts, Aug. 6).

OKLAHOMA - Punctured squares range 4-28 percent in cotton in Jackson, Harmon, Greer, and Tillman Counties and most of Kiowa; averaged 82 percent in field in Centerville area, Kiowa County. Ranged 4-15 percent in Beckham County; averaged 8 percent in Stephens and 13 percent in Grady Counties. Infestation reported moderate in Garvin, Bryan, Choctaw and Caddo Counties, light in Cleveland and Johnston Counties. (Okla. Coop. Sur.). TEXAS - Weevil infestation generally light in Falls and McLennan Counties, with damaging numbers found in 8 of 15 treated fields and 8 of 9 untreated fields. Punctured squares ranged 0-42 (average 14) percent in treated fields and 2.9-58 (average 24.9) percent in untreated fields. Overall average, 17.2 percent. (Cowan et al.). Infestation reported light in cotton in Presidio County in trans-Pecos area and in Harris and Lamar Counties. Damage to irrigated and late-planted cotton reported in McLennan and Falls Counties. Activity in rolling plains area apparently unchanged with most activity reported in southern portion of area. Populations reportedly decreasing in irrigated cotton along and below Caprock in high plains area, but increasing sharply in untreated, irrigated cotton below the Caprock. (Texas Coop. Rpt.).

BOLLWORMS (Heliothis spp. et al.) - NORTH CAROLINA - Light numbers of eggs noted in 9 of 14 fields observed in Robeson County. (Mount). SOUTH CAROLINA - Larvae causing severe damage in some fields in Florence area. Difficulty in control of H. virescens larvae (tobacco budworm) reported in Lee County. Larval infestations range 5-25 percent in treated plots and 13-16 percent in untreated plots in Florence area. Total of 267 H. zea (bollworm) adults and 1 H. virescens adult taken in light trap. (Taft et al., Aug. 11). Increasing in most counties. Percent injured squares for State averaged 4 in treated fields and 12 in untreated fields. Situation in Pee Dee area serious this season in that 0.5-35.5 percent of squares injured compared with 0.8-15 percent for same time last year in treated plots; percent injured squares in untreated plots ranged 3-14 compared with 0-5 percent in 1964. Field populations increasing rapidly. (Cott. Ltr., Aug. 9).

TENNESSEE - Infestations in westen area much lower than at same time in 1964. Larvae present in all fields surveyed and appear on increase throughout area. Infestations heavy in rank cotton. (Locke, Aug. 5). GEORGIA - Egg and larval counts in cotton extremely high in Early County. (French). Infestations light in Spalding County (Beckham) and in Stewart and Webster Counties (Dillard); moderate to heavy in Jenkins and Colquitt Counties (Dekle, Smith, Hancock). ALABAMA - Although not reported serious in many counties, isolated infestations now problem in many fields of young and vigorous cotton. H. zea and H. virescens adults observed, with H. zea predominant in fields. Damage severe in 2 fields of 100 acres each in Bibb County. (McQueen). MISSISSIPPI - Very little activity noted in cotton in central delta area; very few eggs or larvae found in fields. Moth flight low but may increase in next few days. (Pfrimmer et al., Aug. 12). LOUISIANA - Very few eggs or larvae found in cotton checked. Earlier infestations under control and now at low level. Moth activity should increase by August 16. Growers should check for eggs on blooms, bracts of squares and on terminal buds, and for small larvae inside bracts of squares and under dried blooms stuck to small bolls. Five-day application schedule recommended. Beneficial insects low, even in untreated fields. (Tynes, Aug. 9).

ARKANSAS - Moth activity increased in Desha and Jefferson Counties. (Ark. Ins. Sur.). Larval increase again underway in southeast section; apparently not as widespread as in 1964, however; egg laying will not be heavy in some fields "cutting out" due to maturity or drought stress; egg deposition may be heavy in fields still growing rapidly and flowering heavily; growers should look for eggs down in plants and on terminals. Larvae present in 735 of 1,809 fields surveyed in east central section; growers should watch for increase in eggs and larvae in next few days; intensity of infestation difficult to predict at present but some fields may not require treatment. Larval counts decreased in southwest section, but increase can be expected soon; damaged squares present in most fields, but fields where damage over 6 percent should be checked. Bollworms will probably be problem anticipated in central section; many fields "cutting out" will escape heavy larval infestations; all fields should be checked; larvae can be expected to increase in numbers. Infestations very low in upper Arkansas River Valley, but increase expected immediately in growing and flowering fields. Larval counts remain low on cotton over most of northeast section. Moth activity and egg laying underway in some areas; fields should be watched closely for 2-3 weeks; controls should be used only in those fields where larval counts and damaged squares justify treatment. (Barnes, Roberts, Aug. 6).

MISSOURI - H. zea larvae ranged 1-5 and eggs 1-14 per 100 terminals in southeast during week ending August 11. (Jones). OKLAHOMA - H. zea mostly light to moderate in southwest, west central, central, southeast and south central areas. Few infestations range over 20 percent. (Okla. Coop. Sur.). TEXAS - Infestations in cotton increased in McLennan and Falls Counties as moths concentrated in few remaining fruiting fields in area. Eggs ranged 2-63 (average 16.9) and larvae ranged 0-26.2 (average 7.4) per 100 terminals in 15 treated fields. In 9 untreated fields, eggs ranged 9.3-117.2 (average 84.7) and larvae ranged 3.5-19 (average 13) per 100 terminals. Square injury ranged 0-12.9 (average 4.5) percent in 15 treated fields and ranged 0-25.5 (average 2.2) percent in 9 untreated fields. Boll injury averaged 1.9 percent in 15 treated fields and 1.4 percent in 9 untreated fields; ranged 0-4.5 percent in treated fields and 0-14 percent in untreated fields. Determination of 96 larvae collected showed 46 to be H. virescens. (Cowan et al.). H. zea populations increasing in rolling plains area generally. Numbers decreased somewhat in Blacklands area; however, increased egg laying noted. Larvae still of concern to growers in Brazos River bottom area. Infestations spotty in trans-Pecos area, range light to heavy. (Texas Coop. Rpt.). NEW MEXICO - Larvae present in most cotton checked in Dona Ana and Sierra Counties; heavier numbers reported in Luna County cotton. (Mathews). ARIZONA - Populations increasing in cotton in scattered areas of Pima, Pinal, Maricopa, Yuma and Graham Counties. Egg counts increased rapidly over previous week; some controls necessary. (Ariz. Coop. Sur.). CALIFORNIA - Very few economic infestations found

in Fresno County cotton in Mendota-Firebaugh and Sanger areas. Counts of 2-3 larvae per 100 terminals common elsewhere in county. (Stromberg, Aug. 5). Moth activity increased in Kern County; ranged 3-5 per night per trap. Eggs occasionally evident in some fields in Kern and Tulare Counties. (Leigh, Aug. 4). Larvae not yet present in large numbers in Kern County. (Black, Aug. 4).

CABBAGE LOOPER (Trichoplusia ni) - SOUTH CAROLINA - Damage insignificant in fields observed in Florence area. (Taft et al., Aug. 11). Large numbers of diseased larvae observed. (Cott. Ltr., Aug. 9). ALABAMA - Increasing steadily in Lee, Montgomery, Dallas and Bibb Counties. Egg laying occurring, especially on young cotton. Extremely heavy population feeding heavily on leaves of young cotton in Bibb County. (McQueen). NEW MEXICO - Larvae causing minor foliage damage in Dona Ana, Sierra and Luna Counties. (N.M. Coop. Rpt.). CALIFORNIA - Larvae and eggs evident in cotton in Tulare County but no economic infestations evident. (Leigh, Aug. 4).

BEET ARMYWORM (Spodoptera exigua) - ALABAMA - Numerous larvae of several sizes noted on rough pigweed in large field of cotton in Montgomery County; no larvae noted on cotton in field. (McQueen).

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Few larvae found on young cotton in Bibb County; feeding mainly on bracts of squares and damaging blossom buds. (McQueen).

COTTON SQUARE BORER (Strymon melinus) - OKLAHOMA - Light numbers noted in most cotton checked in Jackson County. (Okla. Coop. Sur.).

FALSE CELERY LEAF TIER (Udea profundalis) - CALIFORNIA - Adults very active in Waukena area of Tulare County week ending July 28; eggs and occasional active larva now evident. Growers in area should be alert for outbreak of this pest. (Leigh, Aug. 4).

PINK BOLLWORM (Pectinophora gossypiella) - TEXAS - Counts decreased in cotton in trans-Pecos area but remained high in some fields in Fort Stockton area. (Neeb).

PLANT BUGS - MISSISSIPPI - Lygus lineolaris (tarnished plant bug) still present in some fields of cotton in delta counties; causing considerable injury to blossoms in few fields. (Pfrimmer et al., Aug. 12). MISSOURI - Counts of several species ranged 1-25 per 100 cotton plants in southeast district week ending August 11. (Jones). OKLAHOMA - Psallus seriatus (cotton fleahopper) moderate to heavy on young cotton and on older cotton not sprayed in most areas; ranges 50-80 per 100 terminals in Jackson County cotton. Unspecified fleahopper common in most cotton in Altus area of Jackson County. (Okla. Coop. Sur.). TEXAS - P. seriatus still light to moderate in some high plains area counties; however, damage very light due to advanced stage of cotton. Infestations of P. seriatus decreased in cotton over rolling plains area generally but still causing isolated damage; continues damaging late-planted cotton in Blacklands area. (Texas Coop. Rpt.). NEW MEXICO - Spotted, mostly light infestations of Spanogonicus albofasciatus found in Dona Ana County cotton. (Clayshulte).

LYGUS BUGS (Lygus spp.) - TEXAS - Damaging cotton in Midland County. (Neeb). NEW MEXICO - Scattered, light to heavy infestations found in Dona Ana County cotton; especially heavy where cotton adjacent to alfalfa which has been cut. (N.M. Coop. Rpt.). ARIZONA - Moderate to heavy populations continue to damage bolls and squares in nearly all cotton areas of State. (Ariz. Coop. Sur.). CALIFORNIA - Nymphs common in most areas of Fresno County; comprise approximately 66 percent of counts. (Stromberg, Aug. 5). Populations variable throughout Kern County, depending on previous controls. Adults range 2-10 per 50 sweeps in fields checked in Kern, Tulare and Kings Counties, with numbers high in few fields. Nymphal populations low but increasing in same fields; range 1-5 per 50 sweeps. Continue abundant in cotton near alfalfa being harvested. Populations primarily adults, with nymphs increasing where aphids persisted for some time in Kern County. (Black, Aug. 4).

STINK BUGS - ARIZONA - Moderate to heavy populations of Euschistus impictiventris (western brown stink bug) damaging squares and bolls of cotton in Yuma Valley of Yuma County; average 30-40 per 100 sweeps. Chlorochroa sayi (Say stink bug) continues light in cotton in Graham, Maricopa and Pinal Counties. (Ariz. Coop. Sur.).

APHIDS - SOUTH CAROLINA - Spotty infestations noted in cotton in Florence County. (Taft et al., Aug.11). Infestations in cotton continue spotty over State. (Cott. Ltr., Aug. 9). GEORGIA - Range light to moderate on cotton in Spalding County. (Beckham). ALABAMA - Aphis gossypii (cotton aphid) extremely heavy on young cotton in 75-acre field in Bibb County; plants completely covered by residue of honeydew. Controls applied. Aphid infestations quite light on cotton over State generally. (McQueen). LOUISIANA - No infestations reported in cotton. (Tynes, Aug. 9). NEW MEXICO - A. gossypii built up rapidly on cotton in number of Dona Ana County fields; treatment required in some fields. (Clayshulte). ARIZONA - Some increase in A. gossypii infestations noted in fields of cotton in Graham County; occasional infestation found in western Pinal County. (Ariz. Coop. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - CALIFORNIA - Damage to cotton common along San Joaquin River in Fresno County, but most infestations under control. Fields should be checked frequently for reinfestation. (Stromberg, Aug. 5). Injury to cotton by E. fabae evident in San Joaquin Valley of Kern County; infestations still present in some fields. Control essential if satisfactory crop to be produced. Other leafhopper species common elsewhere in valley but apparently not causing injury to cotton. (Leigh, Aug. 4).

SPIDER MITES - SOUTH CAROLINA - One spotty infestation noted on cotton in Florence area. (Taft et al., Aug. 11). Infestations continue spotty on cotton throughout State. (Cott. Ltr., Aug. 9). TENNESSEE - Rains throughout western area apparently did not check infestations where no treatments made. Damage in many fields indicates these are primary pests of cotton in many instances, especially in counties north of Jackson. (Locke, Aug. 11). GEORGIA - Infestations light and spotty in Spalding County. (Beckham). MISSISSIPPI - Infestations present in many fields in delta counties. (Pfrimmer et al., Aug. 12). LOUISIANA - No infestations reported. Checks should be made in fields treated for several weeks. (Tynes, Aug. 9). ARKANSAS - Continue a problem in some fields across State. (Barnes, Roberts, Aug. 6). MISSOURI - Spot treatments recommended for 400 acres in 73 fields in southeast district during week of August 11. (Jones). CALIFORNIA - Populations about stabilized in Fresno County. Few flareups found where growers delayed treatment until cotton too tall to allow complete coverage. Appear to be moving into cotton where grain sorghum or corn plants to windward. (Stromberg, Aug. 5). Some severe infestations evident in cotton throughout valley in Kern County, with light infestations evident in most fields. Controls should be applied where populations currently high, particularly where Tetranychus atlanticus (strawberry spider mite), which causes severe defoliation, is evident. (Leigh, Aug. 4). Spider mites general, but not extremely heavy in Kern County; controls quite effective. (Black, Aug. 4).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - TEXAS - Defoliating loblolly pine seedlings in eastern Trinity County; damage increasing. (Texas For. Pest Comm., July Rpt.; Williamson). ARKANSAS - Relatively few reports of infestations on pine this year; low numbers of second larval brood present. (Ark. For. Pest Rpt., Aug.). VIRGINIA - Larvae feeding on deodar cedar in Montgomery County. (Isakson, Miller).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Number of active infestations decreased throughout epidemic area during July; 492 spots detected. Before July, number of infestations detected on flights increased rapidly; 6 in March, 65 in April, 334 in May, and 778 in June. Spots detected in July in Hardin, Jasper, Liberty, Newton, Orange, Polk, San Augustine, San Jacinto and Tyler Counties. On National forests, 21 infestations with 138 brood trees controlled on Angelina Ranger District in San Augustine County. Scattered infestations in loblolly and shortleaf pines found over portion of Angelina National Forest; infestations small (1-6 trees) and damage appeared constant. In San Jacinto County, 857 brood trees treated; damage decreasing. (Texas For. Pest Comm., July Rpt.; Williamson).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - TEXAS - Increased in areas where associated with D. frontalis (southern pine beetle) attacks. Controlled on trees in Polk County in conjunction with D. frontalis control to reduce population buildup. D. terebrans continued in many spots where D. frontalis became inactive. Additional mortality expected without control. (Texas For. Pest Comm., July Rpt.; Williamson).

BARK BEETLES - ARKANSAS - Infestations increased in number and scope during July, but activity about normal for time of year. Cutover and burned areas showed expected increases; lightning-struck trees and trees damaged in logging operations also reported infested. Salvage underway in some instances to reduce or remove trees subjected to attack. Overall trend of Dendroctonus terebrans (black turpentine beetle) similar to Ips spp. Attack associated with harvesting of trees in some instances and with dry weather in another. (Ark. For. Pest Rpt., Aug.).

ENGRAVER BEETLES (Ips spp.) - TEXAS - No unusual activity by I. avulsus, I. grandicollis and I. calligraphus except in association with Dendroctonus frontalis (southern pine beetle) infestations. (Texas For. Pest Comm., July Rpt.; Williamson).

PINE BARK WEEVILS - ARKANSAS - Declined in numbers largely due to seasonal behavior. Slight increase of Hylobius pales (pales weevil) expected during next few weeks. (Ark. For. Pest Rpt., Aug.).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - VERMONT - Second-stage larvae settled on pines; now best time for control application. (MacCollom, Aug. 9). NEW YORK - Second generation settled on Scotch pines in Martville area, Cayuga County, August 6. Most trees moderately to seriously infested in 1964 virtually free of infestation as result of predation by Chilocorus stigma (twice-stabbed lady beetle); adults, larvae and pupae ranged 140-250 on few trees still supporting remanent P. pinifoliae populations. (N. Y. Wkly. Rpt.. Aug. 9). NEW JERSEY - Crawlers still active on pines; controls recommended. (Ins.-Dis. Newsltr.).

A SOFT SCALE (Pseudophilippia quaintancii) - NORTH CAROLINA - Heavy on limb of loblolly pine in Halifax County. (Taylor, Mount).

JACK-PINE BUDWORM (Choristoneura pinus) - MICHIGAN - Highly likely that heavy moth flight reported in CEIR 15(32): 902 as C. fumiferana (spruce budworm) was C. pinus. Reasons for suspected new identity include food plant distribution, past records of C. pinus in area and new reports of C. pinus activity in other parts of State on July 23. In Roscommon and Grayling, many motels and restaurants had to close; huge numbers of moths entered doors when opened. (Fink, Millers, Newman).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - NEW YORK - Larvae and pupae noted on Japanese black pine in Greenlawn area of Suffolk County. (N. Y. Wkly. Rpt., Aug. 9).

AN OLETHREUTID MOTH (Rhyacionia pasadenana) - CALIFORNIA - Damage, probably by this species, noted on Monterey pines in Santa Barbara cemetery; heavy in Santa Barbara, Santa Barbara County. (Cal. Coop. Rpt.).

PINE TIP MOTHS - ARKANSAS - Larvae of third brood approaching full size in southwest. Damage generally light to normal. Heavy activity in northern areas locally. (Ark. For. Pest Rpt., Aug.).

YELLOW-HEADED SPRUCE SAWFLY (Pikonema alaskensis) - MINNESOTA - Completed feeding in north and northeastern districts. (Minn. Ins. Rpt.).

SPRUCE NEEDLE MINER (Taniva albolineana) - MINNESOTA - Larvae mining needles of spruce in Minneapolis-St. Paul area. (Minn. Inst. Rpt.).

A WEEVIL (Thricolepis inornata) - CALIFORNIA - Medium on blue spruce trees in Running Springs, San Bernardino County. (Cal. Coop. Rpt.).

SPRUCE SPIDER MITE (Oligonychus ununguis) - OHIO - Infested evergreen in Jackson, Jackson, County. (Marhoover et al.).

DOUGLAS-FIR TUSSOCK MOTH (Hemerocampa pseudotsugata) - IDAHO - Wasp-parasitized cocoons received from Bonners Ferry, Moscow, and St. Maries. Larvae near pupation at Ketchum. (Ingle et al.).

LARCH SAWFLY (Pristiphora erichsonii) - MINNESOTA - Completed feeding in north and northeastern districts. (Minn. Ins. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEW MEXICO - Adults, feeding on Chinese elm foliage in Espanola Valley in Rio Ariba and Santa Fe Counties, not so numerous as during past month. (Heninger). OKLAHOMA - Continues moderate to heavy in most areas; pupating in southwest. (Okla. Coop. Sur.). ARKANSAS - Second larval brood present in northwest; damage to many unsprayed trees severe. (Ark. For. Pest Rpt., Aug.). NEBRASKA - Larvae migrating to tree trunks for pupation; emergence observed in Omaha. Most damaging infestations in southeastern area. (Roselle). INDIANA - Second generation on elms across State. (Schuder). VERMONT - Pupation underway. Controls not recommended at this time. (MacCollom, Aug. 9). ALABAMA - Causing considerable defoliation of elms throughout State. (Clark et al.).

LARGER ELM LEAF BEETLE (Monocesta coryli) - ALABAMA - Causing considerable defoliation of elms mainly along streams and in swampy areas. Observed in Walker, Chilton and Lee Counties. (Clark et al.). SOUTH CAROLINA - Larvae very numerous in Laurens County. (Nettles et al., Aug. 10). NORTH CAROLINA - Defoliated elm in Vance County and 2 trees in Iredell County; large number of adults under elm in Person County following severe storm August 4. (Simmons, Smith).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - MICHIGAN - Adults of second brood active in southeast. (Wallner). IOWA - Laying eggs in dead elms at Woodside Golf Course, Polk County, July 28; emergence may cause partial third generation. (Iowa Ins. Inf.).

EUROPEAN ELM SCALE (Gossyparia spuria) - NEW MEXICO - Light to heavy on American elms in Santa Fe, Santa Fe County. (Heninger). UTAH - Conspicuous on several large elms at Fillmore, Millard County. (Knowlton).

A PIT SCALE (Asterolecanium minus) - CALIFORNIA - Heavy on oak trees in Martinez, Contra Costa County. (Cal. Coop. Rpt.).

OAK LACE BUG (Corythucha arcuata) - DELAWARE - Abundant on oak locally in Sussex County. (Burbutis, Woodall).

A GALL WASP (Neuroterus floccosus) - OHIO - Noted on leaves of white oak in cemetery in Cleveland. (Walker).

WILLOW FLEA WEEVIL (Rhynchaenus rufipes) - NEW HAMPSHIRE - Adults noted in leaves of laurel willow (Salix pentandra); leaves heavily mined at Claremont. (Conklin, Sutherland).

SAWFLIES - NEW YORK - Larvae of Janus abbreviatus (willow shoot sawfly) killing pussy willow twigs in Middletown area, Orange County. (N. Y. Wkly. Rpt., Aug. 9). OHIO - Unspecified species severe on pin oak trees in wooded area about home in Warren, Trumbull County. (Strausbaugh, Delaplane). MINNESOTA - Croesus latitarsus (dusky birch sawfly) very spotty on aspen at International Falls. (Minn. Ins. Rpt.)

A CICADA (Tibicen marginalis) - KANSAS - Abundant and damaging poplar trees near Sublette, Haskell County. (Knutson, Blocker).

OYSTERSHELL SCALE (Lepidosaphes ulmi) - NEW MEXICO - Light to heavy and damaging willows in Santa Fe area, Santa Fe County. (Heninger). VIRGINIA - Heavy on lilac bushes at location in Buchanan, Botetourt County. (Amos).

POPLAR TENT MAKER (Ichthyura inclusa) - TEXAS - Caused heavy defoliation of year-old cottonwood plantation in Nacogdoches County. (Texas For. Pest Comm., July Rpt.; Williamson).

PALE TUSSOCK MOTH (Halisidota tesselaris) - SOUTH DAKOTA - Defoliating poplar in Brookings, Brookings County. (Kantack).

A CLEARWING MOTH (Paranthrene robiniae) - CALIFORNIA - Causing heavy damage to willow trees in Marysville, Yuba County. (Cal. Coop..Rpt.).

SYCAMORE LACE BUG (Corythucha ciliata) - DELAWARE - Abundant on some sycamores in Kent County. (Burbutis, Woodall).

AMERICAN PLUM BORER (Euzophora semifuneralis) - NEW YORK - Spotty in sycamore throughout Nassau County. (N. Y. Wkly, Rpt.,Aug. 9).

PIGEON TREMEX (Tremex columba) - MICHIGAN - Adults recently emerged from maple in Mason County. (Raven, Janes). IOWA - Adults and larvae noted at Creston. (Iowa Ins. Inf., Aug. 2).

MIMOSA WEBWORM (Homadaula albizziae) - ALABAMA - Continues as major pest to ornamentals. (Odom et al.). MARYLAND - Heavy on mimosa at numerous locations over State. (U. Md., Ent. Dept.). INDIANA - Appearing in southern two-thirds of State. (Schuder).

LOCUST LEAF MINER (Xenochalepus dorsalis) - ARKANSAS - Second brood active; damage appears lighter than that of first generation. (Ark. For. Pest Rpt., Aug.).

A PSYLLID (Psylla uncatoides) - CALIFORNIA - Heavy and damaging Acacia melanoxylon trees in Yuba City, Sutter County. (Cal. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - NORTH DAKOTA - About 30 percent of chokecherry bushes in Medora area infested; isolated infestations on crab apple, poplar and willow observed in Barnes and Richland Counties. (Thomasson). ARKANSAS - First-generation larvae completed development in southern area; approaching full growth in northern area. Number of webs very light in south; somewhat more numerous in northeast but fewer than normal. Number of webs in northwest above normal for first generation. (Ark. For. Pest Rpt., Aug.). VIRGINIA - Young larvae fairly common on variety of trees in Washington and Scott Counties. (Isakson).

GYPSY MOTH (Porthetria dispar) - MICHIGAN - Trapping continues negative; optimism that species eradicated from State increased. During 1950 when known populations were treated, peak flight occurred in late July and early August; possibility of trapping adult males continues to decrease as season progresses. (Turner). MASSACHUSETTS - At East Wareham, Plymouth County, 5 males taken in 2 blacklight traps July 31-August 6. (Tomlinson). RHODE ISLAND - Continues ovipositing in Cranston and Lincoln areas, Providence County. (Veilleux).

OMNIVOROUS LOOPER (Sabulodes caberata) - CALIFORNIA - Larvae heavy and damaging Brazilian-pepper trees in Oxnard, Ventura County. More prevalent and damaging to many host plants this season than for past several years. (Cal. Coop. Rpt.).

RED-HUMPED CATERPILLAR (Schizura concinna) - MARYLAND - Larvae infesting crab apple and blueberries near Long Corner, Howard County. (U. Md., Ent. Dept.). NEW HAMPSHIRE - Nearly full-grown larvae damaging flowering crab at Concord. (Sutherland).

GRASSHOPPERS - NEW MEXICO - Problem in nurseries in Santa Fe and Rio Arriba Counties; mostly nymphs. Severely damaging foliage of plants displayed in nurseries. (Heninger). WISCONSIN - Infestations, probably Dendrotettix quercus, spotty in forest near Black River Falls, Jackson County; some smaller trees nearly 90 percent defoliated. Feeding on oaks and hazels. Some disease apparent and number of dead grasshoppers noted. Mating underway. (Wis. Ins. Sur.).

A SAP BEETLE - NEW MEXICO - Very abundant on roses at Santa Fe, Santa Fe County, causing considerable damage to flowers. (Heninger).

A CASEBEARER MOTH (Coleophora rosacella) - MICHIGAN - Larvae collected in rose garden in Macomb County. (Newman, Caldwell).

HOLLYHOCK WEEVIL (Apion longirostre) - UTAH - Collected at Brigham City, Box Elder County; Wellsville, Cache County; Kaysville, Davis County; Sandy, Salt Lake County; and Levan, Juab County. Present at Lindon, Utah County, and Clearfield, Davis County. Box Elder County is a new county record. (Knowlton).

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) - CALIFORNIA - Damaging hollyhock in Fresno, Fresno County. (Cal. Coop. Rpt.).

A TISCHERIID MOTH (Tischeria omissa) - CALIFORNIA - Damaging hollyhock in Fresno, Fresno County. (Cal. Coop. Rpt.).

FULLER ROSE BEETLE (Pantomorus godmani) - CALIFORNIA - Heavy and damaging hibiscus buds in Orangevale, Sacramento County. (Cal. Coop. Rpt.).

LILAC LEAF MINER (Gracilaria syringella) - COLORADO - Caused very heavy damage to lilacs in Denver area. (Swingle). WISCONSIN - Larvae present and infestations common in area near Stratford, Marathon County; this is one of northernmost records for species in State. (Wis. Ins. Sur.). VERMONT - Second-generation larvae emerging from mines; rolling leaf tips. (MacCollom, Aug. 9).

HARLEQUIN BUG (Murgantia histrionica) - NEW MEXICO - Light to moderately heavy on honeysuckle and lilac at Santa Fe, Santa Fe County; ranged 2-20 per plant checked. (Heninger).

AZALEA CATERPILLAR (Datana major) - ALABAMA - Larvae defoliating numerous azaleas at Grand Bay, Mobile County. (Seibels).

AZALEA LEAF MINER (Gracilaria azaleela) - NORTH CAROLINA - Larvae infested azalea leaves in Caldwell County. (Andrews, Mount).

APHIDS - CALIFORNIA - Stegophylla quercicola nymphs and adults heavy on Quercus douglasii in Winters, Yola County. (Cal. Coop. Rpt.). Lachnus salignus heavy on weeping willow in Paradise, Butte County; occurrences of L. salignus dropped considerably since 1964. (Cal. Coop. Rpt.). NEW MEXICO - Cinara tujafilina light to moderate on many arborvitae checked at Santa Fe. (Heninger). UTAH - Drepanaphis acerifoliae (painted maple aphid) numerous on silver maples at Provo, Utah County. Periphyllus lyropictus (Norway-maple aphid) numerous in some localities. P. negundinis (boxelder aphid) making trees sticky at Fillmore, Millard County. (Knowlton). COLORADO - Various species continue damage to junipers in nursery in West Denver. (Colo. Ins. Sur.). IOWA - Large, dark species noted on weeping willow at Buffalo Center; controls recommended. (Iowa Ins. Inf., Aug. 2). WISCONSIN - Winged forms of Pemphigus populitransversus (poplar petiole gall aphid) emerging from galls;

migration to crucifers expected. (Wis. Ins. Sur.). NEW YORK - Unspecified species very active, particularly on linden and willow in Nassau County. Continue problem on privet in Suffolk County; causing yellowing and curling of leaves. (N. Y. Wkly. Rpt., Aug. 9).

WHITEFLIES - NEW MEXICO - Adults abundant; some feeding damage noted on foliage of flowering plants at Santa Fe, Santa Fe County. (Heninger). CALIFORNIA - Nymphs of Aleuroplatus coronatus heavy on oak trees in park in Escondido, San Diego County; when populations "explode" in southern area, millions of adults in air cause irritation and concern to residents. (Cal. Coop. Rpt.).

ARMORED SCALES - CALIFORNIA - Nymphs and adults of Aspidiotus cyanophylli medium on Easter cactus nursery stock in Vista and Diaspis boisduvalii heavy on windmill palm in Cardiff, San Diego County. (Cal. Coop. Rpt.)

A LEAFHOPPER (Hordnia circellata) - CALIFORNIA - Nymphs and adults medium on geranium plants in Fresno, Fresno County. (Cal. Coop. Rpt.).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Heavy on evergreens in Stephens, Cleveland and Washington Counties; moderate in Cherokee County. (Okla. Coop. Sur.). ARKANSAS - Completed feeding activity for year. Damage more severe than normal to ornamental evergreens, but less noticeable on deciduous shrubs. (Ark. For. Pest Rpt., Aug.). NEBRASKA - Infestations on conifers in Lincoln area generally more severe and general than in past years. (Roselle). INDIANA - Near maturity; damage appearing on junipers. (Matthew). MARYLAND - Heavy on arborvitae cedar and junipers locally in Queen Annes, Talbot and St. Marys Counties. (U. Md., Ent. Dept.). ALABAMA - Continues major pest of ornamentals. (Odom et al.).

BAGWORMS -GEORGIA - Heavy on cedars in Clarke County. (Williams).

MOURNING-CLOAK BUTTERFLY (Nymphalis antiopa) - IDAHO - Larvae damaged ornamentals in Custer and Jefferson Counties. (Edwards, Gooch).

A LEAFCUTTING BEE (Megachile sp.) - NEW MEXICO - Damage to plant foliage causing considerable concern to homeowners at Nambe, Santa Fe County. (Heninger).

ASIATIC GARDEN BEETLE (Maladera castanea) - RHODE ISLAND - Numerous adults in soil on farm in Exeter, Washington County. (Mathewson).

BROAD-NECKED ROOT BORER (Prionus laticollis) - RHODE ISLAND - Adults collected in Greenville, Providence County, and Peace Dale, Washington County. (Farrar).

BLISTER BEETLES - MARYLAND - Adults destructive to dahlias on property in Worcester County. (U. Md., Ent. Dept.).

ERIOPHYID MITES - UTAH - Causing very light gall damage to narrow-leaf cottonwood trees at Pine Valley, Washington County. (Knowlton). IOWA - Causing spindle galls on maples at Jesup. (Iowa Ins. Inf., Aug. 2). MICHIGAN - Adults and nymphs causing damage to several plantations of red pine in Oscoda County. (Wallner).

SPIDER MITES - NORTH CAROLINA - Heavy on carnations in Cleveland County greenhouse. (Love). NEW MEXICO - Heavy on English ivy at Las Vegas, San Miguel County. (Kloepfer).

MITES - VERMONT - Foliage of many hardwoods and conifers exhibiting bronzing as result of infestation by tetranychid and eriophyid species. Drought also affecting appearance of trees. (MacCollom, Aug. 9). GEORGIA - Moderate on Japanese magnolia in Miller County. (Whitehead).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - NORTH CAROLINA - Culiseta melanura present in unusual numbers in Coastal

Plain area. Half of 26 mosquitoes collected from walls of outbuildings at residence in Craven County this species. Aedes sollicitans (salt-marsh mosquito) very light along coast. (Ashton). WISCONSIN - Most problems in northwest section where rainfall has been adequate. High populations but greatly reduced biting noted in parts of Madison area. General increase in Culex pipiens pipiens (northern house mosquito) expected in temporary pools formed by recent rains. (Wis. Ins. Sur.). MINNESOTA - Metropolitan Mosquito Control District light traps yielded over 34,000 mosquitoes during the week of August 1-7; 31,169 Aedes vexans, 985 Culex tarsalis, 621 Culiseta inornata, 367 Anopheles walkeri and 439 Mansonia perturbans. A total of 2,602 larval collections made with A. vexans found in 1,186, Culex territans in 454, C. tarsalis in 348, C. restuans in 307, C. pipiens in 301, Culiseta inornata in 222 and C. minnesotae in 134. In 28 evening bite collections, 641 A. vexans, 11 A. cinereus, one Culex pipiens, 5 C. salinarius, 3 C. tarsalis and 15 M. perturbans taken. In 294 five-minute daytime collections, 2,508 A. vexans, 173 A. cinereus, 18 A. trivittatus, 84 A. stimulans, 71 A. excrucians, 51 A. fitchii and 29 A. sticticus taken. Number of Culex tarsalis reported previous week (CEIR 15(33): 942) should have read 1,022 rather than 10,022 reported. (Minn. Ins. Rpt.). IOWA - Light trap catches at Davenport as follows: May 27-June 25, Culex tarsalis 60, Aedes vexans 514; June 24-July 8, C. tarsalis 265, A. vexans 149; July 9-15, C. tarsalis 177, A. vexans 73. Total of 478 A. vexans caught in light trap at Ames on July 25 after heavy rain July 19 ended 3 weeks of dry weather. (Iowa Ins. Inf.). KANSAS - In Riley County light traps Aedes vexans predominates, Culex pipiens moderate and C. tarsalis very light, 1-2 per night per trap. (Simson). Total of 30 C. tarsalis larvae collected from livestock watering tanks in Riley County. (Knutson, Pitts). TEXAS - During July in Jefferson County, Psorophora confinnis present throughout month with counts as high as 200 per night in traps. A. vexans appeared at irregular intervals. A. sollicitans (salt-marsh mosquito) occurred in Port Arthur area with trap counts of 140 per night for brief period; few taken in other areas of county. A. taeniorhynchus appeared in Port Arthur area and few found in other areas. Anopheles quadrimaculatus (common malaria mosquito) present in north Beaumont area with trap counts up to 48 per night. A. crucians occurred throughout county. Psorophora ciliata present in north Beaumont and Port Arthur areas. Uranotaenia sp. occurred in south Beaumont trap. (Jeff. Co. Mosq. Cont. Comm., July Rpt., Thompson).

NEW MEXICO - Abundant and very annoying to man and animals in Espanola Valley area, Rio Arriba County. (Heninger). COLORADO - Rains produced favorable breeding conditions throughout State. Some cities and counties applying controls. (Colo. Ins. Sur.). UTAH - Moderate to abundant in some areas of Utah County. (Barlow, Knowlton). Troublesome to persons and livestock in many areas of Uintah, Duchesne and Emery Counties. (Knowlton). CALIFORNIA - Increased noticeably during past 2 weeks, heavy populations in uncontrolled areas. Adults invading rice-growing, river, lake, and resort areas in large numbers. Control excellent in Mosquito Abatement Districts except where influx from outside areas noticeable. Cool weather prevented normal development of gambusia fish until recently; some stocking of rice fields and ponds occuring. Heavy infestations expected following rain of August 10-11. (Cal. Coop. Rpt.). OREGON - C. tarsalis again building up in Klamath Basin. (Hanna).

HOUSE FLY (Musca domestica) - NORTH CAROLINA - Causing complaints in Duplin and Pender Counties. (Ashton). WISCONSIN - Populations remain high in many areas. (Wis. Ins. Sur.). UTAH - Moderately numerous on farms and about communities in Emery County. (Olson, Knowlton).

FACE FLY (Musca autumnalis) - WISCONSIN - Activity increased in several areas. Few cases of pinkeye reported from Trempealeau County. Problems also reported from Grant and Chippewa Counties and in low areas of Langlade County. (Wis. Ins. Sur.). SOUTH DAKOTA - Continues serious on cattle throughout State. Averaged 25 per head in Charles Mix County. (Berndt). MISSOURI - Counts per face as follows by county: Adair 7.3, Macon 9.9, Randolph 1.9 and Pettis 0.3. No adults or larvae found in Cape Girardeau and Scott Counties. (G. D. Thomas, Houser).

HORN FLY (Haematobia irritans) - SOUTH DAKOTA - Continues serious on cattle throughout State. Ranged 200-300 per side on cattle in Charles Mix County. (Berndt). UTAH - Numerous and annoying cattle in Myton-Bridgeland-Duchesne area, Duchesne

County. Populations often high on beef cattle in Millard and Juab Counties. Controls commonly needed. (Knowlton). OKLAHOMA - Reported heavy on cattle in Garvin County and moderate in Cleveland County. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans)- WISCONSIN - Remains major cattle pest in most instances. (Wis. Ins. Sur.). IOWA - Annoying people in urban areas of Polk County. (Iowa Ins. Inf., Aug. 2). WYOMING - Adults averaged 608 per animal in feedlots in Goshen and Laramie Counties. Controls recommended. (Marks).

TABANID FLIES - IOWA - Tabanus atratus (black horse fly) adult found in Shelby County. (Iowa Ins. Inf.). OKLAHOMA - Tabanus spp. heavy on cattle in Choctaw County. (Okla. Coop. Sur.). UTAH - Horse flies annoying horses in Payson-Benjamin area, Utah County. Unspecified species still annoying cattle in Myton-Bridgeland-Duchesne area and several canyon areas of Duchesne County and in a few areas of Emery County. (Knowlton).

SNIPE FLIES (Symphoromyia spp.) - UTAH - Troublesome to campers and fishermen in Daniels Canyon area, Wastach County. Moderately annoying in Pine Valley Recreation area, Washington County. (Knowlton).

GNATS - NEW MEXICO - Heavy around homes in extreme northeast section of Albuquerque, Bernalillo County. Controls give only temporary relief. (N. M. Coop. Rpt.).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Reported heavy on cattle in Choctaw County. (Okla. Coop. Sur.).

VESPID WASPS - NORTH DAKOTA - Five colonies reported stinging or annoying in Fargo, Cass County. (Post). NEW HAMPSHIRE - Vespula sp. annoying people generally. (Conklin).

CICADA KILLER (Sphecius speciosus) - NEW YORK - Annoying about lawns at several locations over State. (N. Y. Wkly. Rpt., Aug. 9).

FLEAS - NEW JERSEY - Active in homes of returning vacationers. (Ins.-Dis. Newsltr.) IDAHO - Ctenocephalides felis (cat flea) infesting lawn and adjacent areas in Caldwell. (Homan).

HOUSEHOLD AND STRUCTURAL INSECTS

EUROPEAN EARWIG (Forficula auricularia) - NEW HAMPSHIRE - Now known statewide; more heavily concentrated in larger communities in southern half of State. Only occasionally reported in Coos County. (Conklin). VERMONT - Adults remain abundant and common in and around homes. (MacCollom, Aug. 9). RHODE ISLAND - Generally present; populations apparently leveled off or began decline in most of State. (Mathewson, Veilleux, Hannah).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - RHODE ISLAND - Entering homes in numbers in Kenyon, Washington County, and Riverside, Providence County. (Veilleux). WISCONSIN - Activity by this and Calomycterus setarius (a Japanese weevil) continue in some areas; incidence of migrations decreased generally. (Wis. Ins. Sur.). IDAHO - Adults active in homes in Riggins, Goodings and Conda. (Stecker et al.).

LARDER BEETLE (Dermestes lardarius) - MARYLAND - Adults and larvae infested ham at Annapolis, Anne Arundel County. (U. Md., Ent. Dept.).

A CERAMBYCID BEETLE (Parandra brunnea) - RHODE ISLAND - Numerous adults in home in North Providence, Providence County; associated with stump in cellar. (Veilleux).

INDIAN-MEAL MOTH (Plodia interpunctella) - VIRGINIA - Infesting roasted peanuts in home in Stony Creek, Sussex County. (Isakson).

CARPENTER ANTS (Camponotus spp.) - NEW YORK - Annoying to homeowners in Suffolk County. (N. Y. Wkly. Rpt., Aug. 9).

A SUBTERRANEAN TERMITE (Reticulitermes tibialis) - CALIFORNIA - Damaging arch in home in Anaheim, Orange County. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

LADY BEETLES - MICHIGAN - Adults and larvae numerous in aphid colonies on corn in many areas; major help in reducing numbers. Large larval population feeding on aphid-infested potatoes in Gratiot County. (Newman, Bierlein). WYOMING - Adults and larvae averaged 48 per 100 sweeps in alfalfa, 36 in potatoes and sugar beets and 3-8 per corn plant in Goshen and Laramie Counties. (Marks).

MELYRID BEETLES (Collops spp.) - OKLAHOMA - Most common predators in southwest area cotton; numerous in most fields. (Okla. Coop. Sur.).

DAMSEL BUGS (Nabis spp.) - WYOMING - Adults and nymphs numerous in alfalfa, corn, potatoes and sugar beet fields in Goshen and Laramie Counties. (Marks). WISCONSIN - Populations increased in many alfalfa fields with some counts up to 5 per sweep. (Wis. Ins. Sur.).

INSIDIOUS FLOWER BUGS - WISCONSIN - Population of unspecified species remains high in most corn and alfalfa fields. One specimen noted feeding on Therioaphis maculata (spotted alfalfa aphid). (Wis. Ins. Sur.). OKLAHOMA - Orius insidiosus numerous and increasing in most fields of cotton in southwest area. (Okla. Coop. Sur.).

BIG-EYED BUGS (Geocoris spp.) - IDAHO - Averaged 8 per sweep in alfalfa seed fields in Arena Valley, Canyon County. (Waters).

GREEN LACEWINGS (Chrysopa spp.) - WYOMING - Adults and larvae numerous in alfalfa, corn, potato and sugar beet fields in Goshen and Laramie Counties. (Marks).

DAMSELFLIES AND DRAGONFLIES - NORTH DAKOTA - Populations developed in record proportions in southwestern area; playing definite role in mosquito and aphid control. (Thomasson).

PARASITIC WASPS - IDAHO - Populations of mummified aphids range 1 per 2 alfalfa plants to 15 per head of wheat in aphid-infested crops throughout eastern area. (Portman).

Beneficial Insects in Cotton in California - Fresno County: Wide variety of predators still reasonably abundant; however, apparently not too effective in many areas. (Stromberg, Aug. 8). Kern County: Collops spp. (melyrid beetles) very abundant in western portion of San Joaquin Valley and eastward in parts of Tulare County; where abundant, apparently controlling spider mites and some other pests. Big-eyed bugs quite abundant in much of valley at present with eggs common in colonies of spider mites in Shafter area. (Leigh, Aug. 4). Populations of beneficial species extremely abundant in most Kern County fields. (Black, Aug. 4).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - INDIANA - Adults collected for the first time in Jefferson County near Hanover College. (Clark). MICHIGAN - Very few adults taken during week in any trapping area except around Battle Creek. Sizeable population exists in area where restriction prohibited use of certain insecticides in 1964. Five adults taken in fringe area surrounding Battle Creek infestation. (Turner).

EASTERN HERCULES BEETLE (Dynastes tityus) - SOUTH CAROLINA - Found breeding in stump of Chinaberry tree in Central, Pickens County. (Nettles et al., Aug. 10).

EUROPEAN EARWIG (Forficula auricularia) - NEW MEXICO - More plentiful in same area where found during past 3 years; apparently little spread beyond 2-square mile area. All stages found; several reports of damage to flowers and vegetables. (N. M. Coop. Rpt.).

FIELD CRICKETS (Gryllus spp.) - OKLAHOMA - Numerous and annoying around lights at night in southwest area. (Okla. Coop. Sur.).

PAINTED LADY (Vanessa cardui) - IDAHO - Larvae stripped leaves and prevented flowering of Canada thistle and other thistles throughout eastern area. (Portman).

A WAX MOTH - GEORGIA - Larvae infesting hives of Apis mellifera (honey bee) in Hart County. (Page).

CORRECTIONS

CEIR 14(INDEX):19 - Cecidomyia verruicola should read Cecidomyia verrucicola.

CEIR 14(INDEX):36 - Scatopse sp. (a March fly) should read Scatopse sp. (a scatopsid fly).

CEIR 15(33):942 - MOSQUITOES - MINNESOTA - The number of Culex tarsalis collected in light traps should read 1,022.

ADDITIONAL NOTES

ARKANSAS - Soybeans surveyed in Jefferson, Monroe and Lee Counties; no economic infestations. Only 2 larvae of CORN EARWORM (Heliothis zea) found in 200 (10 per field) 3-row-foot samples. Adults noted in soybean fields. During past 3 years infestation occurred suddenly about August 25 to September 1. THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) averaged 0.9 adult and 4.5 nymphs on 30 row feet compared with 0.9 and 3.9 previous week. BEAN LEAF BEETLE (Cerotoma trifurcata) increased about threefold. GREEN CLOVERWORM (Plathypena scabra) averaged 23.1 on 30 row feet with many small larvae present. H. zea larvae on sorghum mostly second instar; 50 percent in heads which had not emerged in late-planted hybrid sorghum. In Jefferson County, 15 larvae found in 100 heads on 57 row feet; 5 larvae found in 100 heads on 28 row feet in Lee County. CHINCH BUG (Blissus leucopterous) built up in some areas. Sudan pastures in southern Arkansas County damaged. H. zea problem in commercial okra production in eastern area. Okra field in Lee County checked weekly; plant terminals, buds and blooms checked on 50 plants at random. Eggs found: July 28 - 1, August 4 - zero, and August 11 - 9. On August 11, 8 of 9 eggs on buds. DAMSEL BUGS (Nabis spp.) and BIG-EYED BUGS (Geocoris spp.) continue as most important predaceous insects in soybeans in areas surveyed. Geocoris spp. averaged 2.1 adults and 5.6 nymphs on 30 row feet. Nabis spp. averaged 6.8. Reproduction continues as nymphs observed. (Ark. Ins. Sur.).

MASSACHUSETTS - A LEAF ROLLER MOTH (Sparganothis sulfurana) more abundant and widespread on cranberry bogs in southeastern area than for several years. Observed feeding on fruit. (Tomlinson).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I, MV = incandescent, O = mercury vapor, other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Epitrimerus acres (salt-marsh caterpillar)	Feronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiltalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera ornitica (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARKANSAS																								
Hope 8/5-11				6						18					9			0	8					
Morrilton 7/29-8/4				2						4					2			0	24					
Kelso 8/4-11				0						18					0			0	1					
Fayetteville 8/5-11				1						69					4			6	0					
ILLINOIS (County)																								
Champaign 8/6-12	49-83	Trace		39						8				13	13	38		3	15		27	1		
INDIANA (Counties)																								
Posey 7/31-8/6			BL	10			0			7				103	0		14	9	10					
Vanderburgh 7/31-8/6			BL	30			0			7				50	5		1	6	44					
Harrison 7/31-8/6			BL	22			0			1				66	6		5	17	31					
Dubois 7/31-8/6			BL	37			0			4				91	2		1	13	21					
Sullivan 7/31-8/6			BL	3			0			0				19	0		13	10	37					
Greene 7/31-8/6			BL	10			0			3				54	3		17	23	41					
Jackson 7/31-8/5			BL	23			0			2				52	9		8	18	41					
Switzerland 7/31-8/6			BL	34			0			1				6	5		7	1	26					
Franklin 7/31-8/2			BL	20			0			0				26	1		6	3	15					
Parke 7/31-8/6			BL	19			0			1				7	4		6	28	21					
Shelby 7/31-8/6			BL	7			0			0				13	3		6	1	14					
Hamilton 7/31-8/6			BL	29			0			11				6	5		0	3	45					
Tippecanoe 7/31-8/2			BL	28			0			3				5	4		0	0	14					
Wells 7/31-8/6			BL	4			0			0				2	2		0	2	5					
Jasper 7/31-8/6			BL	4			0			0				69	2		0	5	38					
Allen 7/31-8/6			BL	10			0			0				11	2		0	0	14					
Lake 7/31-8/6			BL	4			0			0				7	2		0	5	11					
St. Joseph 7/31-8/6			BL	4			0			1				145	6		1	1	15					
Lagrange 7/31-8/6			BL	12			0			1				33	5		2	3	42					
MARYLAND																	spp.							
Centreville 8/3-11				6						105				106	0		29		10		13	1		
Snow Hill 8/3-9				43						137				163	42		31		114		12	48		
MASSACHUSETTS																								
East Wareham State Bog 7/31-8/6			BL														3		2					
East Wareham Peterson Bog 7/31-8/6			BL																6					
East Wareham Peterson Bog 8/7-13			BL							3									1					
MICHIGAN (Counties)																								
Berrien 8/3-9			BL	4											12	5			12					
Branch 8/3-9			BL	9											13	2			9					
Kalamazoo 8/3-9			BL	0											0	0			2					
Jackson 8/3-9			2BL	7											7	5			11					
Livingston 8/3-9			BL	3											13	2			18					
Saginaw 8/3-9			BL	7											11	1			9					
Sanilac 8/3-9			BL	9											14	2			23					
Ogemaw 8/3-9			BL	2											7	0			12					
Newaygo 8/3-9			BL	3											8	4			11					
Iron 8/3-9			BL	7											3	1			8					
Menominee 8/3-9			BL	2											3	3			17					

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	Mercola ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Choristoneura auxiliaris (fall cutworm)	Epiblema screa (fall webworm caterpillar)	Feronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiralis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tobacco hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
MINNESOTA																								
Crookston 7/31-8/6			BL	3				0					0	8	11	0			0					
Fergus Falls 7/31-8/6			BL	1				4					0	19	11	0			1					
Rochester 7/31-8/6			BL	4				0					1	2	19	1			12					
Shakopee 7/31-8/6			BL	1				0					0	0	4	0			1					
Worthington 7/31-8/6			BL	5				1					1	30	7	0			4					
MISSISSIPPI																								
Rolling Fork 8/6-12	67-92	1.10	BL	3			4	48	8	45					3	29	6	15	9	28	77	412		
Stoneville 8/6-12	66-92	0.98	2 BL	22			9	67	1	103					4	143	2	9	30	63	216	244		
Tunica 8/6-12	63-91	0.80	BL	33			7	336	6	233					7	62	1	26	18	28	89	148		
NEBRASKA																								
North Platte 7/16-23				130				50			5				8	479	35	5	1	231				
North Platte 7/24-30				136				29			3				6	359	53	11		93				
North Platte 7/31-8/6				99				6			5				39	143	26			70				
Scotts Bluff Expt. Sta. 7/24-30				12				28				spp. 3973				145				37				
Scotts Bluff Expt. Sta. 7/30-8/6				11				18				1259				159				94				
Parks 7/14-20				47				27				986				71				117				
Parks 7/21-27				204				194				1900				266				242				
Gering Valley 7/22-28				13		1		11				638				67				11				
Gering Valley 7/29-8/4				47				8				1090				213				21				
NEW JERSEY																								
Aura 8/9, 13											10				4		9		7	9				
Edinburg 8/9, 13											2				42		10	2	1	23				
Masonville 8/9, 13											8				4		16		1	91				
Seabrook 8/9, 13											1				1		8	1	2	8				
NORTH DAKOTA																								
Fargo 8/7-13				5											5					1				
Bowman 8/7-13				4									1											
OHIO (Counties)																								
Licking 8/5-11			BL														1							
Wayne 8/5-11			BL	4												3				1				
Franklin 8/8-11			BL	4				4			1				2		15							
SOUTH DAKOTA																								
Brookings 8/6, 9-11			BL	4			14	sp 46							3					15				
TENNESSEE (Counties)																								
Knox 8/3-9				20				4			4				20			2	7	40				
Johnson 8/3-9				32							12				16			2	7	44				
TEXAS																								
Waco 8/7-13				6				57	18	248					11	6				7		24	177	

LIGHT TRAP COLLECTIONS

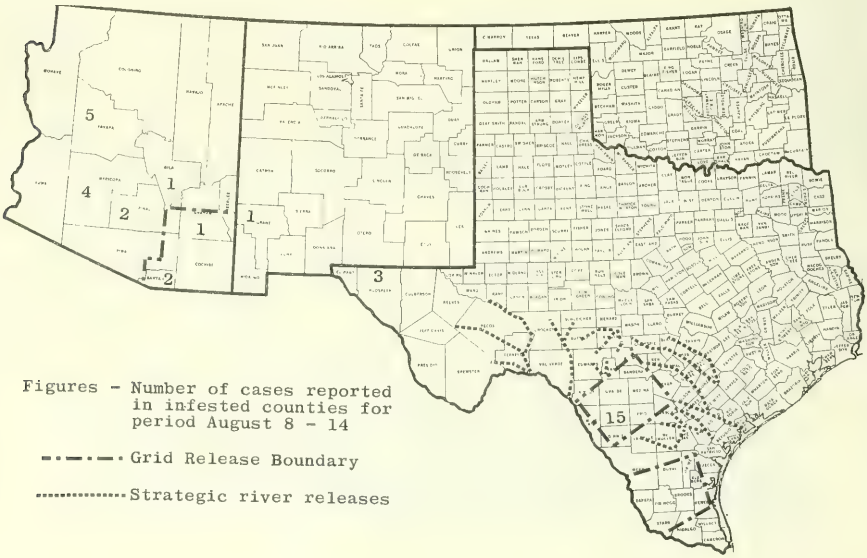
	Temperature °F.	Precipitation (inches)	Type of trap (BL = Blacklight; I = Incandescent; MV = mercury vapor; O = other)	Agrotis ipsilon (black cutworm)	Caracoccus nonsolla (codling moth)	Chorizagrotis auxiliaris (gray cutworm)	Euxoenus arcas (salt-marsh caterpillar)	Faronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege similalis (beet webworm)	Oeiriana nubilalis (European corn borer)	Perirosa gauris (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
WISCONSIN																								
Fontana 7/26-8/2			BL	52							0				9	30				34		25		
Walworth 7/26-8/2			BL	51							0				19	46				59		32		
Delavan 7/26-8/2			BL	55							1				11	57				50		49		
Darien 8/3-9			BL								0				7					46				
Janesville 8/3-9			BL								0				3					7				
Evansville 8/3-9			BL								0				4					8				
Mazomanie 8/2-10			BL								0				25					0				
Madison 8/4-10	48-93		BL	12	33						0				6	13				3		0		
Middleton 8/4-10			BL	2	31						0				4	0				0		0		
Arlington 8/3-9			BL								3				12					31				
Wayne 8/3-9			BL								0				0					28				
Theresa 8/3-9			BL								0				0					23				
Nenno 8/3-9			BL								0				0					19				
Columbus 8/3-9			BL								0				9					4				
Eden 8/3-9			BL								0				1					12				
Oakfield 8/3-9			BL								0				5					20				
Beaver Dam 8/3-9			BL								6				239					10				
Fox Lake 8/3-9			BL								11				286					20				
Danville 8/3-9			BL								4				230					29				
Ripon 8/3-8			BL								0				65					79				
Rosendale 8/3-8			BL								3				106					100				
Clyman 8/3-9			BL	5							5				5					4				
Hancock 7/31-8/10			BL	8							0				5	7				16		1		
Cedar Grove 8/3-9			BL	6											14					50				
Waldo 8/3-9			BL								0				3					41				
WYOMING																								
Centennial 6/26-7/2				2		76		1								4				1				
Centennial 7/3-9						101														1				
Centennial 7/10-16						56		3								3				1				
Centennial 7/17-23						38		1								6								
Centennial 7/24-30						14		2								4				1				

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period August 8-14, a total of 34 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Hudspeth 3, Zavala 15; NEW MEXICO - Grant 1; ARIZONA - Pinal 2, Santa Cruz 2, Graham 1, Maricopa 4, Yavapai 5, Gila 1. The Republic of Mexico reported 111 cases: Territory of Baja California Sur 12, Sonora 20, Chihuahua 15, Coahuila 2, Nuevo Leon 3, Sinaloa 11, Durango 21, Veracruz 18, San Luis Potosi 9. Sterile screw-worm flies released: Texas 14,724,250, New Mexico 2,140,000, Arizona 11,456,000, the Republic of Mexico 59,054,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding weeks in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	80	2,389	69	4,556	115.94	52.43
1964	0	105	30	4,213	0.00	2.49
1965	34	546	33	3,578	103.03	15.25
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	8	1,380	10	1,304	80.00	105.82
1965	80	2,957	32	1,533	250.00	192.88
Table 2A. Mexican portion of Barrier Zone only.						
1964	0	1,288	0	576	0.00	223.61
1965	52	2,517	21	841	247.61	299.28

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Wisconsin (State or District) DURING 1964 (Year)

ATTACKING Sweet corn (Commodity or Crop)

A. Pest or pest complex: European corn borer, corn earworm

B. Number of acres[a] produced (From CRS)	No.	89,000
C. Average yield per acre[a] (From CRS)	Units/	3.75 tons
D. Price[b] per unit (ton)[c] (From CRS)	$/	19.29
E. Acres[a] needing control	No.	70,000
F. Acres[a] treated	No.	20,114
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	100
I. Loss in yield, units per acre[a], C x H	Units/	3.75 tons
J. Loss in yield, $ per acre[a], D x I	$/	72
K. Loss in quality, $ per ----[a]	$/	----
L. Yield loss for all acres[a], (E-F) x I	Units	187,072 tons
M. Control cost, $ per acre[a],	$/	15.00
N. Control cost for all acres[a], F x M	$	301,710
O. Yield loss for all acres[a], (E-F) x J	$	3,591,792
P. Quality loss for all ----[a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	3,893,502

R. Percent loss due to each insect in the complex:

Comment: Most of loss not due to actual yield loss but to contamination and insurance against it. Most of cost expressed is that in lieu of extra laborers which would be needed to trim and screen out larvae.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

ATTACKING Oats (Commodity or Crop)

A. Pest or pest complex: Armyworm

B. Number of acres[a] produced (From CRS)	No.	2,076,000
C. Average yield per acre[a] (From CRS)	Units/	51 bu.
D. Price[b] per unit (bu.)[c] (From CRS)	$/	.66
E. Acres[a] needing control	No.	5,000
F. Acres[a] treated	No.	4,550
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	2.5
I. Loss in yield, units per acre[a], C x H	Units/	1.28 bu.
J. Loss in yield, $ per acre[a], D x I	$/	.85
K. Loss in quality, $ per ----[a]	$/	----
L. Yield loss for all acres[a], (E-F) x I	Units	576 bu.
M. Control cost, $ per acre[a],	$/	2.00
N. Control cost for all acres[a], F x M	$	9,100
O. Yield loss for all acres[a], (E-F) x J	$	382
P. Quality loss for all ----[a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	9,482

R. Percent loss due to each insect in the complex:

Comment: Some areas value oats as a cash crop, others as only a nurse crop - treatment many times used on this basis.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Wisconsin (State or District) DURING 1964 (Year)

ATTACKING Hay (Commodity or Crop)

A. Pest or pest complex: Grasshoppers, potato leafhopper, other sucking insects

B. Number of acres [a] produced (From CRS) No. 3,971,000

C. Average yield per acre [a] (From CRS) Units/ 2.09 tons

D. Price[b] per unit (ton)[c] (From CRS) $/ 21.50

E. Acres [a] needing control No. 500,000

F. Acres [a] treated No. 139,984

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 4

I. Loss in yield, units per acre [a], C x H Units/ .84 ton

J. Loss in yield, $ per acre [a], D x I $/ 18.00

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all acres [a], (E-F) x I Units 302,413 tons

M. Control cost, $ per acre [a], $/ 2.00

N. Control cost for all acres [a], F x M $ 279,968

O. Yield loss for all acres [a], (E-F) x J $ 6,480,288

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 6,760,256

R. Percent loss due to each insect in the complex: Grasshoppers 50; leafhoppers 40; spittlebugs and pea aphid 10.

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

ATTACKING Peas (Commodity or Crop)

A. Pest or pest complex: Armyworm, pea aphid

B. Number of acres [a] produced (From CRS) No. 117,700

C. Average yield per acre [a] (From CRS) Units/ 2,170 lb.

D. Price[b] per unit (lb.)[c] (From CRS) $/ .046

E. Acres [a] needing control No. 8,000

F. Acres [a] treated No. 7,508

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 80

I. Loss in yield, units per acre [a], C x H Units/ 1,736 lb.

J. Loss in yield, $ per acre [a], D x I $/ 80

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all acres [a], (E-F) x I Units 854,112 lb.

M. Control cost, $ per acre [a], $/ 2.00

N. Control cost for all acres [a], F x M $ 15,016

O. Yield loss for all acres [a], (E-F) x J $ 39,360

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 54,376

R. Percent loss due to each insect in the complex: Armyworm 80; pea aphid 10.

Comment: Loss mainly due to contamination which could be 100 percent.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MD. 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 August 27, 1965 Number 35

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GRASSHOPPERS economic on range and crop lands in several States; damage to corn, alfalfa and other crops reported. Some feeding on tobacco by RED-LEGGED GRASSHOPPER reported in Wisconsin. (pp. 991, 1005). FRIT FLY continues damaging to turf in New Mexico. EUROPEAN CORN BORER adult numbers increasing in New York, New Jersey, Indiana and Wisconsin; emergence complete in central and western Illinois; egg laying underway in several areas. (p. 922). CORN EARWORM reported heavy in sweet corn in Utah; infestation heavy and widespread in some other corn-growing areas. (pp. 992, 993). Second-generation SOUTHWESTERN CORN BORER adults increasing in Missouri. (p. 993). CORN ROOTWORMS (Diabrotica spp.) remain of concern to corn in several States. (pp. 993, 994, 1017). SOUTHERN CORN ROOTWORM causing serious damage to tobacco in Dane County, Wisconsin. (p. 1004). CORN LEAF APHID remains high on corn in some Eastern States and throughout Ohio; populations in other corn-growing areas declining due to rains, parasites and predators. LYGUS BUGS, THREE-CORNERED ALFALFA HOPPER and BEET ARMYWORM populations high and/or damaging to alfalfa in Arizona. POTATO LEAFHOPPER prevalent in all areas of Vermont and causing extensive yellowing on alfalfa; considerable yellowing also evident in older alfalfa in Wisconsin. (pp. 996, 997, 998, 1017).

EUROPEAN RED MITE populations at high level in pear orchards in Oregon; control difficult in Michigan and first overwintering eggs of season noted in Ohio. Second-brood CODLING MOTH potential threat due to continued warm weather in Vermont. FALL WEBWORM webs common on deciduous fruits in Ohio. (p. 999). CITRUS RUST MITE population on Florida citrus at lowest August level in 15 years of record, but BLACK SCALE remains at highest level for August during same period. CITRUS FLAT MITE on tangerines required controls in Arizona. (p. 1000). CRANBERRY FRUITWORM of concern in southwestern Massachusetts. (p. 1017). VARIEGATED CUTWORM populations abnormally high in some dense stands of tobacco in Wisconsin; caused considerable defoliation. (p. 1004).

BOLL WEEVIL infestations very high in Virginia cotton, increased in Mississippi and Louisiana; caused considerable damage in Tennessee. Overall boll weevil infestation in Alabama exceeds extreme infestations of 1962. (p. 1005). BOLLWORM infestations apparently declining in South Carolina and remain much lower than than for several years in western Tennessee; however, continue of major importance in some cotton in Alabama. Increases in populations noted in Mississippi and Louisiana, with increased activity reported in Arkansas. (p. 1006).

MOSQUITOES remain troublesome in various sections of the Nation; heavy populations reported in some areas and increasing numbers annoying in other sections. (p. 1012). FACE FLY increasing in Illinois and Indiana, high in Ohio and Vermont; decreasing numbers reported in South Dakota. Reported for first time in Idaho. HOUSE FLY annoying in several States and BLACK HORSE FLY heavy on cattle on Oklahoma. (p. 1013).

DETECTION

New State records reported were: NORTHERN CORN ROOTWORM (Diabrotica longicornis) in Delaware (p. 994); a SPIDER MITE (Oligonychus viridis) in Delaware (p. 1011); and FACE FLY (Musca autumnalis) in Idaho (p. 1003). New County records were: ORIENTAL FRUIT MOTH (Grapholitha molesta) in Colusa County (p. 999), and a LEAF MINER FLY (Phytobia maculosa) in Sutter County (p. 1003). both in California.

CORRECTIONS and ADDITIONAL NOTES

See pages 1016 and 1017.

SCIENTIFIC NAME CHANGE

The name for BANDED HICKORY BORER, listed in the Common Names of Insects approved by the Entomological Society of America as Chion cinctus (Drury), has been changed to Knulliana cincta (Drury). See Linsley, E. G. 1962. The Cerambycidae of North America. Part III. Univ. Cal. Pub. Ent. 20:109.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1021).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Lima Beans, Snap Beans, Potatoes, Onions, Carrots and Cabbage in Wisconsin in 1964. (pp. 1022, 1023, 1024).

Reports in this issue are for week ending August 20 unless otherwise indicated.

WEATHER OF THE WEEK ENDING AUGUST 23

HIGHLIGHTS: (1) Widespread moderate to heavy precipitation. (2) Beneficial rains in northeastern drought area. (3) Hot, humid week in South.

TEMPERATURE: Hot, humid weather with maxima over 90° prevailed in the South all week and extended from New England to Texas the first 3 days, and even into the desert Southwest at times. Elkins, West Virginia, had 90° or above the first 3 days, a record there for the time of year. Wichita Falls, Texas, reported 106° the 19th. On Friday, the temperature at New York City fell below 70° for the first time in 5 days. Cool air began moving south along the Canadian border at the beginning of the week, reaching the Southern States by the weekend. It was a pleasant week in the north central areas. A second push of cold air over the weekend reduced minimum temperatures to near freezing in upper Great Lakes areas. Hibbing, Minnesota, had 35° on the 22d. Average temperatures for the week were a few degrees above normal in most of the area south and east of a line from Cleveland, Ohio, to Abilene, Texas, and in the Pacific Northwest. Elsewhere the week was cooler than normal. Weekly averages ranged from 4° above normal at Little Rock, Arkansas, and Seattle, Washington, to 6° below in the central Rockies and central Great Plains.

PRECIPITATION: Showers occurred over large areas daily, covering most of the country in the course of the week. Most of the rain east of the Rockies fell along a cold front that moved from the Canadian border on Monday to the Southern States by Friday. Weekly amounts exceeded 0.8 inch from the eastern slopes of the central Rockies eastward through the Corn Belt and fanning out in the East from Maine to the Carolinas. Similar amounts also fell in central gulf areas and east Florida. More beneficial rains fell in the Northeast drought area. Much of northern New England had 1 to over 2 inches but less than 0.8 inch in much of the Southeast. In New York, amounts of 0.7 to 1.5 inches were widespread. Rainfall averaged 1.2 inches in Pennsylvania, where 0.9 inch is normal for the week. In New Jersey, totals ranged from one-third inch at southern points to nearly 2 inches in the north. A considerably increased flow in the Delaware River was reported. Amounts in most of the Far West were moderate to heavy. Severe local storms were numerous. Damaging flash floods were reported in Nevada and Utah. Tornadoes caused some injuries and considerable damage at locations at or near Ocean Drive Beach, South Carolina; Vichy, Missouri; and Somers, Connecticut. (Summary supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - NEVADA - Melanoplus spp. populations, mostly adults, economic on 20,000 acres of range and farm lands in Elko County and 10,000 acres in White Pine County; infestations generally localized. Some parasitism by fungi noted; expected to increase due to damp weather. (Del Curto). ARIZONA - Heavy populations of several species seriously defoliating trees and other vegetation near Wikieup in Mohave County. (Ariz. Coop. Sur.). UTAH - Grasshoppers continue damaging about most Carbon County Communities. (Horn, Knowlton). Egg laying general in State. Grasshoppers moderate about home gardens at Touquerville, Washington County; Nephi, Juab County; and Deseret, Millard County. Remain abundant in several untreated range and farm areas in Sanpete County. (Purnell, Knowlton). WYOMING - Several species causing light damage to alfalfa in Washakie County; range 4-9 per square yard. (Marks). OKLAHOMA - Economic infestations of several species indicated on rangeland, roadsides and crop margins on 35,000 acres in Pontotoc County and 25,000 acres in Woodward and Beaver Counties. Grasshoppers reported heavy on rangeland in southern Pushmataha County and in Murray County; moderate in alfalfa in Cleveland County. (Okla. Coop. Sur.). MISSOURI - Melanoplus spp. numbers remain noneconomic in central and west central districts. (Houser). NEBRASKA - Melanoplus spp. light in field margins in Keith County. (Rhine). SOUTH DAKOTA - Grasshoppers numerous in field margins and damaging crops in various sections; averaged 20 per square yard in borders of alfalfa in Moody County and ranged 30-40 per square yard on roadsides and field borders north of Lake Andes in Charles Mix County. (Kantack). Adult populations noneconomic in Clay, Union, southern Lincoln and Turner Counties; M. femurrubrum (red-legged grasshopper), M. differentialis (differential grasshopper) and M. sanguinipes (migratory grasshopper) observed. (Jones). Grasshoppers classified as "thick" in some sections of Stanley, Ziebach, Dewey and Corson Counties. In addition to 2 areas in Corson County, heavy areas of infestation located in northwestern Stanley County, eastern Ziebach County and in Eagle Butte and Timber Lake areas of Dewey County. Grasshoppers light on rangeland in southwestern Ziebach County and along Moreau River in Dewey and Ziebach Counties. (Burge, Zimmerman, Aug. 16). NORTH DAKOTA - Very little change noted in general grasshopper situation. Isolated infestations still reported, but crop damage remains minimal. (Thomasson).

MINNESOTA - Grasshopper movement into corn and soybeans reported in central, west central and southwest districts; damage very evident in marginal rows. High counts found in few fields in northern Kandiyohi County; up to 36 per square yard found in alfalfa and marginal rows of corn. Some egg laying by M. differentialis observed in area. M. femurrubrum again dominant species. M. differentialis found important in some fields in Nicollet, Hennepin, Kandiyohi and Big Stone Counties, especially when in corn and soybeans. Counts of 8-14 grasshoppers per square yard found in Norman and Mahnomen Counties; counts very low elsewhere in northwest districts. (Minn. Ins. Rpt.). WISCONSIN - Few second instar nymphs of M. femurrubrum still present in western counties. Populations high in parts of Vernon, Crawford and northern Grant Counties, with 40 per square yard not unusual. Some light feeding on marginal corn plants common and feeding in scattered fields of alfalfa becoming evident. Most nymphs in fifth instar and percentage of adults increasing weekly. (Wis. Ins. Sur.). NEW HAMPSHIRE - Grasshoppers, primarily M. femurrubrum and M. bivittatus (two-striped grasshopper), destroyed field of hay then moved to silage corn at Bristol, Grafton County. (Conklin).

MORMON CRICKET (Anabrus simplex) - UTAH - Infestations found in Daggett, Uintah, Tooele, Millard, Sanpete and San Juan Counties, but numbers noneconomic. (Thornley, Knowlton).

GREAT BASIN TENT CATERPILLAR (Malacosoma fragile) - CALIFORNIA - Defoliating 800 acres of bitterbrush (Purshia tridentata) in Bidwell Canyon and Adin areas of Modoc National Forest. This is important deer browse area. (D. E. Vaughan, USFS).

FALSE CHINCH BUG (Nysius ericae) - IDAHO - Reported extremely numerous in lawns, weeds and in packing plant of Snake River Trout Farm at Buhl, Twin Falls County. (Evans).

FRIT FLY (Oscinella frit) - NEW MEXICO - Continues severe damage to golf course in Dona Ana County; controls effective for short periods only. (Watson).

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Blacklight collections indicate measurable increase in moth flight. Egg laying well underway in southern area and egg masses appearing on sweet corn in other than most advanced sections of State. In field corn at least, egg laying apparently will be confined to younger plants. Canners treating sweet corn in some areas; others about to apple controls. (Wis. Ins. Sur.). INDIANA - Blacklight trap catches heaviest in Posey (476), St. Joseph (363) and Lagrange (105) Counties; totals in Jasper County appear to have decreased. Generally, however, collections showed marked increase in northern half of State. (Matthew). ILLINOIS - Moth emergence complete in central and western sections; nearing completion in northern section. Egg laying will continue for 2-3 weeks, but severe damage to corn not expected. (Ins. Sur. Bull.). MISSOURI - Most second-generation larvae entered stalks of corn in central and west central districts; few found in green silk masses of late-planted corn. Infestation in central districts ranged 45-97 percent, with 1-7 larvae per infested plant; in west central district, infestation ranged 37-83 percent, with 1-5 borers per infested plant. Second-generation moth counts continue to increase in Pemiscot County. (Houser, Thomas, Keaster). NEBRASKA - Adult flights reached peak; egg masses ranged 20-50 per 100 corn plants in Keith County. (Rhine). ARKANSAS - Found at rate of 5,540 per acre in field of hybrid grain sorghum in Lee County; none found in Jefferson County. Borers had entered central stem of 2 heads of sorghum; such heads will likely lodge as crop matures. (Ark. Ins. Sur.). MARYLAND - Present in more than 50 percent of fields of corn checked in central and eastern sections also noted in Queen Annes County where small numbers noted in corn in cannery. (U. Md., Ent. Dept.). NEW JERSEY - Adult numbers reported increasing in light trap collections. (Ins.-Dis. Newsltr.). NEW YORK - Adults taken in blacklight trap at Geneva since August 1 and catches increased August 14-15. Egg masses readily found on corn in area; hatching beginning. Controls recommended. Activity of second-brood larvae in whorls of corn in Hudson Valley appears lowest in 14 years. (N.Y. Wkly. Rpt., Aug. 16).

CORN EARWORM (Heliothis zea) - UTAH - Infestation of sweet corn very high in Washington, Sanpete, Salt Lake and southern Kane Counties; 1-2 moths per night taken in blacklight trap in Benjamin-Spanish Fork area, Utah County. Infesting most field corn in field at Hyrum, Cache County. Infested approximately 50 percent of market corn at Logan, Cache County. Reports indicate infestation often high in home garden sweet corn throughout State. (Knowlton). NEW MEXICO - Moderate to heavy damage to field corn reported in Dona Ana and Bernalillo Counties. (Heninger, Campbell). OKLAHOMA - Reported heavy in grain sorghum in Pushmataha County, moderate in local areas of Beckham County. Damaged 80 percent of ears of irrigated corn in Texas County. Numbers light in peanuts in Carter, Bryan and Caddo Counties; range 4-10 per 100 terminals. Averaged 3 per 10 sweeps in Garvin County alfalfa. (Okla. Coop. Sur.). ARKANSAS - Larvae ranged 1-6 per 30 feet of row in 6 of 20 fields of soybeans surveyed in Jefferson, Arkansas, Monroe and Lee Counties; total of 14 larvae found. Larvae of variable sizes found in other fields, with highest count 20 in one field in Lonoke County. Moth activity in soybeans increased in some areas, with some moths noted in fields during the day. Economic infestations in soybeans likely to occur in some areas within next 7 days. Large numbers of uniform size larvae appearing suddenly in late August represents pattern of past few years. Larvae found at rate of 4,560 per acre in field of hybrid grain sorghum in Jefferson County and 14,681 per acre in field in Lee County. (Ark. Ins. Sur.). MISSOURI - Egg laying continues in corn having green silks in central and west central districts. All life stages present. Larvae found in 10-50 ears per 100 in these districts. (Houser). ILLINOIS - Larvae appearing in corn in many central and northern area fields. Egg laying increased, but overall infestations should be less than in 1964. Seed producers may wish to protect late maturing fields. (Ins. Sur. Bull.). WISCONSIN - Few nearly full-grown larvae and some small larvae found in occasional ear of field corn. Adult more common in blacklight traps; still reason to believe higher than normal incidence of this pest will occur. (Wis. Ins. Sur.). MICHIGAN - Larval injury resulted in one lot of sweet corn being unsaleable in Macomb County. Few

adults taken in blacklight trap during July. Additional blacklight traps now in operation to provide information on forthcoming flight of late summer adults from southern areas. (Newman). RHODE ISLAND - Infested more than 50 percent of ears of sweet corn in planting in Kingston, Washington County. (Kerr). NEW JERSEY - Adult numbers reported increasing in light trap collections. (Ins.-Dis. Newsltr.). MARYLAND - Infested 25 percent of silking corn in Queen Annes County. (U. Md., Ent. Dept.). VIRGINIA - None found in soybeans surveyed in Isle of Wight, Nansemond, Southampton and Greensville Counties. (Isakson). NORTH CAROLINA - Larvae found in 8 of 18 fields of soybeans checked in Beaufort, Hyde and Washington Counties; ranged 8-22 (average 10) per 25 feet of row in infested fields. Most larvae about quarter inch long; moths noticeable in several fields. (Mount). SOUTH CAROLINA - A problem on late-planted corn in Newberry County. (Nettles et al., Aug. 17). ALABAMA - Heavy and widespread in corn throughout Bullock County. (Stone).

FALL ARMYWORM (Spodoptera frugiperda) - ILLINOIS - Damage to corn evident in many late maturing fields; damage ranged 70-80 percent in some fields in whorl stage or just tasselling. Many larvae full grown and leaving plants to pupate. (Ins. Sur. Bull.). MISSOURI - Larvae, 90 percent in last stage, present in whorls and ears of late planted corn in central and west central districts; infested plants ranged 3-37 per 100. (Houser). NORTH DAKOTA - Trace numbers noted near Zahl, Williams County, northwest. No host given. (Thomasson). OKLAHOMA - Moderate in broomcorn in McClain County, light in Garvin County. Light in grain sorghum in Carter County; reported heavy in same host in Osage County. (Okla. Coop. Sur.). ARKANSAS - Found at rates of 1,140 per acre in field of hybrid grain sorghum in Jefferson County and 1,662 per acre in a Lee County field. (Ark. Ins. Sur.). ALABAMA - Heavy in young corn in Talladega, Calhoun, Etowah and Tallapoosa Counties; larvae range 1-5 per plant. (Bass et al.). VIRGINIA - No infestations found in soybeans surveyed in Isle of Wight, Nansemond, Southampton and Greensville Counties. (Isakson). MARYLAND - Moderate to heavy in late field corn. (U. Md., Ent. Dept.). NEW YORK - Hatching egg masses found on corn in Geneva area. Larvae scarce in corn in Hudson Valley. (N.Y. Wkly. Rpt., Aug. 16). RHODE ISLAND - Small infestation noted on farm in Glocester, Providence County. (King, Mathewson).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - UTAH - Causing some damage to corn for canning in area from Utah County north through Box Elder County. Damaging 3 acres of alfalfa and moving to adjacent field of corn at Hyrum, Cache County; larvae large and most about to pupate. (Knowlton). Damaging crops in several parts of Carbon County. (Horn, Knowlton). More numerous and general than normal during past 2 weeks in many parts of State. (Knowlton, Davis et al.).

ARMYWORM (Pseudaletia unipuncta) - NEW JERSEY - Adult numbers reported increasing in light trap collections. (Ins.-Dis. Newsltr.).

SORGHUM WEBWORM (Celama sorgiella) - ARKANSAS - Found at rate of 6,094 per acre in hybrid grain sorghum in Lee County; none found in Jefferson County. (Ark. Ins. Sur.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSOURI - Second-generation adults increasing in Pemiscot County; blacklight trap catch for week ending August 20 highest of season. (Houser, Keaster).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Preliminary survey results indicate unusually high populations of D. longicornis (northern corn rootworm) present in scattered fields of corn in southwest; range as high as 14 per individual corn silk with extensive feeding observed. D. undecimpunctata howardi (southern corn rootworm) very common in many fields; only species present in some instances. D. virgifera (western corn rootworm) scarce in southwest but found in 3 fields of corn in 19 fields surveyed in southwest; also found in 2 fields in Vernon County and 1 field in Crawford County. D. virgifera appears more numerous in fields where D. longicornis not too common. (Wis. Ins. Sur.). MINNESOTA - Preliminary results of survey conducted in southern half of State show considerable

reduction in numbers of Diabrotica virgifera in southwestern counties. D. virgifer predominates only in Rock County; populations ranged from trace to 30 percent in few fields scattered throughout southwest districts. D. longicornis apparently dominant species in southwest, as well as in southeast, east central, central and west central districts. Cause of decrease in D. virgifera populations not known. Diabrotica spp. adult populations, except in few central and southeast counties, down considerably from 1964. Number of lodged and damaged fields also less than last year. (Minn. Ins. Rpt.). SOUTH DAKOTA - D. virgifera adult populations decreased in corn in southeast counties; usually averaged less than 4 per stalk in fields checked; few exceptions noted, however. Abdomens of females distended from egg development. Apparent decrease in adult numbers in corn probably due to dispersal to other crops; e.g., in alfalfa near Meckling, Clay County, adults per 100 sweeps ranged 10-40 D. longicornis, 8-12 D. undecimpunctata howardi and 4-6 D. virgifera. Up to 15 Diabrotica spp. adults per stalk noted on later corn further north in Moody County, of which 80 percent were D. virgifera and 20 percent D. longicornis. Heavy damage to untreated corn on oat stubble reported in Moody County, with considerable lodging and goosenecking observed; adult counts averaged 15 D. longicornis per plant, 1 D. virgifera per 2 plants and 1 D. undecimpunctata howardi per 5 plants. (Jones, Kantack). MISSOURI - Delimiting survey conducted in Boone, Howard, Cooper and Benton Counties in central district and in Johnson and Bates Counties in west central district. No specimens of D. virgifera collected. Adults of D. longicornis ranged 1-2 per plant and adults of D. undecimpunctata howardi ranged 1-10 per 5 plants. All counts in late-planted corn still shedding pollen. (Houser, Thomas). MARYLAND - Small numbers of D. undecimpunctata howardi found in 27 fields of alfalfa checked in Frederick and Queen Annes Counties; also noted in several fields of corn. (U. Md., Ent. Dept.).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - INDIANA - As many as 9 adults per ear noted feeding on silks of field corn in northwest Washington County. Some ears showed lack of fertilization and filling due to beetle activity. (Lehker, Matthew). Heavily infested field with lodged plants and indication of yield loss reported from Hamilton County. (Chandler). NEW YORK - Adults readily collected on silks of field corn at Hurley. (N.Y. Wkly. Rpt., Aug. 16). DELAWARE - Single adult collected from window at Newark, New Castle County, August 16 by D. MacCreary, and 3 taken at light at Newark August 17 by E. Davis; 11 taken in 3 mosquito traps in northern New Castle County by S. Kracke. Det. by W. A. Connell. These collections constitute a new State record. (MacCreary, Woodall).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - SOUTH DAKOTA - Adults concentrated on flowers of Iberis sp. (candytuft) in agronomy nursery at Brookings, Brookings County; adults averaged 15 per plant, but ranged up to 30 per plant. Flowers damaged, with little seed production expected. (Kantack).

FLEA BEETLES - OHIO - Reported damaging corn in Clinton County. (Fladt, Blair). NEW YORK - Chaetocnema pulicaria (corn flea beetle) averaged about 1 per plant on sweet corn in Hudson Valley. (N.Y. Wkly. Rpt., Aug. 16).

SAP BEETLES (Carpophilus spp.) - MARYLAND - C. dimidiatus (corn sap beetle) light to moderate in sweet corn at the cannery. (U. Md., Ent. Dept.). UTAH - C. lugubris (dusky sap beetle) noted on sweet and field corn infested by Heliothis zea (corn earworm) in many portions of southern and central sections of State; common in sweet corn in Green River area, Emery County. (Knowlton).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - SOUTH DAKOTA - Weevils, tentatively determined this species, observed feeding on exposed kernels in standing corn near Norway Center, Lincoln County. (Jones).

WHITE GRUBS - MICHIGAN - Root feeding by middle-stage larvae of Phyllophaga spp. caused severe damage to fields of corn and soybeans in Monroe County; these fields in soil bank program earlier and grass crops plowed down. (Janes). UTAH - Damage to home lawns by unspecified species more common than normal throughout Salt Lake County. (Burningham, Knowlton).

CORN LEAF APHID (Rhopalosiphum maidis) - OHIO - Infestations continue high on some corn throughout State. Sooty mold noted on corn leaves where aphid populations were heavy on 90-100 percent of plants in field near Millersburg, Holmes County. Lesser infestations involving 20-60 percent of plants noted in Knox County; R. maidis reported infesting corn in Hardin County. (Rose, Klingler). R. maidis reported infesting field of Sudan-sorghum hybrid in Clinton County; approximately 100 percent of plants involved. (Fladt). MICHIGAN - Adult and nymphal populations greatly reduced due to rains, fungus disease and predators; problems practically elmininated in fields checked in Ingham, Wayne, Monroe, Livingston, Oakland, Shiawassee and Aranac Counties. Some colonies remain on youngest corn. Infestation low in 10 fields checked August 16 where moderate to high populations existed 2 weeks earlier. (Janes, Newman). INDIANA - Light in corn in northern third of State; ranged 1-5 per 25 plants with 20-30 percent of fields checked being infested. (White). ILLINOIS - Populations decreasing due to parasites, predators and disease; mortality ranged 20-90 percent in fields observed. Insecticides no longer necessary. (Ins. Sur. Bull.). WISCONSIN - Populations nearly depleted in older corn in southwestern and western counties although fairly heavy numbers persist on young plantings. Colonies more common behind leaf sheaths and extensively tended by Lasius alienus (cornfield ant). Colony size decreased from 500 to approximately 20 aphids per colony in Columbia County check site; attributed mostly to dispersal. Treatments ceased in areas where controls exercised. (Wis. Ins. Sur.). NEBRASKA - Light in fields of sorghum checked in York County. (Rhine). WYOMING - Very light on corn in Washakie County; found only in 3 of 15 fields surveyed. (Marks). OKLAHOMA - Reported moderate in grain sorghum in Mayes, Caddo and Pushmataha Counties; light in Osage County. Light in broomcorn checked in McClain and Garvin Counties. (Okla. Coop. Sur.). MARYLAND - Moderately abundant to heavy in corn checked. (U. Md., Ent. Dept.). NEW YORK - High populations noted in both dark and light tasseled varieties of corn. (N.Y. Wkly. Rpt., Aug. 16). RHODE ISLAND - Heavy infestations reported in Kingston, Exeter and Narraganset, Washington County, and in Smithfield and Burrilville, Providence County; probably occurs statewide. (Mathewson, King, Mueller, Kerr). VERMONT - Prevalent but most infestations will subside in 10 days. (MacCollom, Aug. 16).

ENGLISH GRAIN APHID (Macrosiphum avenae) - CALIFORNIA - Medium on oat plantings in Crescent City, Del Norte County. (Cal. Coop. Rpt.).

CHINCH BUG (Blissus leucopterus) - OKLAHOMA - Reported heavy in late-planted grain sorghum in Mayes County. Light in Garvin County broomcorn. (Okla. Coop. Sur.). ILLINOIS - Observed damaging corn in spots in fields; probably numerous in millet, Sudan grass and Sudan-sorghum hybrids in eastern area. Mostly second-generation nymphs, but some first-generation adults noted. (Ins. Sur. Bull.). NEW JERSEY - Very active in turf in many areas of State. (Ins.-Dis. Newsltr.). NEW YORK - All stages found on turf in eastern Suffolk County. (N.Y. Wkly. Rpt., Aug. 16).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Common in ears of home garden sweet corn in Cache, Box Elder and Salt Lake Counties. (Knowlton).

SORGHUM MIDGE (Contarinia sorghicola) - NEW MEXICO - Some damage on grain sorghum apparent in Cotton City area, Hidalgo County; adults averaged 1-3 per 25 sweeps. (Campbell).

WHEAT MIDGE (Sitodiplosis mosellana) - MINNESOTA - Again reported damaging late seedings of wheat in Roseau County. (Minn. Ins. Rpt.).

PEA APHID (Acyrthosiphon pisum) - MARYLAND - Apparently increasing in few of 27 fields of alfalfa checked in Frederick and Queen Annes Counties; up to 140 per sweep noted in one field, but negligible in most fields. (U. Md., Ent. Dept.). INDIANA - Ranged 1-3 per sweep in alfalfa in northern third of State. (White). WISCONSIN - Continues low on alfalfa in western counties; ranged 0-6 per sweep. (Wis. Ins. Sur.). UTAH - Increased to injurious numbers on alfalfa in several areas of Sanpete County. (Purnell, Knowlton). Light to moderate in alfalfa in Emery and Carbon Counties. (Olson, Horn, Knowlton). WYOMING - Light in Washakie

County alfalfa; 20-45 per 100 sweeps. (Marks). NEW MEXICO - Reported light in all acres of State. (N.M. Coop. Rpt.). WASHINGTON - Counts per sweep on alfalfa as follows by area: Mabton 9, Pasco 25, Brownstown 2-200, Ellensburg 55, upper Columbia Basin 4-100, Walla Walla 10. (Halfhill, Aug. 13).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Ranged as high as 800 per 10 sweeps in Tillman County alfalfa; spraying underway. Counts per 10 sweeps averaged 100 in Bryan County, 25 in Garvin County and 20 in Choctaw County. (Okla. Coop. Sur.). KANSAS - Present in alfalfa in south central counties; populations light. As dry weather favors buildup, potential problem exists for seedling alfalfa this fall. (Ins. Sur. Rpt., Aug. 19). WISCONSIN - Populations remain essentially unchanged from report in CEIR 15(34):960. (Wis. Ins. Sur.). NEW MEXICO - Light infestations reported on alfalfa in Bernalillo and Lea Counties. (Heninger, Kloepfer). UTAH - Not numerous in alfalfa at St. George, Washington County. (Knowlton). OREGON - First infestation of season found at Hermiston, Umatilla County. Adults and nymphs averaged 2 per sweep. (Goeden).

APHIDS - WASHINGTON - Averaged 13 per 100 sweeps on alfalfa in Walla Walla area, Walla Walla County. (Halfhill, Aug. 13).

MEADOW SPITTLEBUG (Philaenus spumarius) - OHIO - Adults range 2-4 per sweep in alfalfa checked in Guernsey, Harrison and Holmes Counties. (Rose).

LYGUS BUGS (Lygus spp.) - ARIZONA - Heavy populations continue to be found in alfalfa in Graham, Maricopa, Pinal and Yuma Counties and in Fredonia area of Coconino County. (Ariz. Coop. Sur.). NEW MEXICO - Averaged 6-7 per 25 sweeps in southern Eddy County and in Lea County. (Kloepfer). UTAH - Moderately abundant in seed alfalfa near Duchesne, Duchesne County; population 70 percent L. elisus. (Knowlton). NEVADA - Range 5-15 (average 10) per sweep in most alfalfa in Mason Valley, Lyon County. (Cooney). IDAHO - Ranged up to 25 per sweep in rape plantings at Grangeville, Idaho County. (Cook, Portman, Studer). OREGON - Adults averaged 2 per sweep in treated alfalfa in Jackson County; very few nymphs present. (Koreski).

PLANT BUGS (Adelphocoris spp.) - ARIZONA - A. superbus (superb plant bug) infestations increasing in alfalfa in Graham and Maricopa Counties. Averaged 30 per 100 sweeps. (Ariz. Coop. Sur.). INDIANA - A. lineolatus (alfalfa plant bug) ranged 1-3 per sweep in alfalfa in northern third of State. (White).

STINK BUGS - WASHINGTON - Adults fairly abundant and feeding at base of seed heads of red clover in Quincy area, Grant County. (Landis, Aug. 13). NEW MEXICO - Ranged 1-3 per 25 sweeps on grain sorghum in Hidalgo County. (Campbell). MISSOURI - Adults of Acrosternum hilare (green stink bug) ranged 0-2 (average less than 1) per 100 sweeps in soybeans in central and west central districts. (Houser). NORTH CAROLINA - Several species found in 8 of 18 fields of soybeans checked in Beaufort, Hyde and Washington Counties; averaged 2 adults and 12 nymphs per 25 feet of row in one field. Ranged 1-3 per 25 feet of row in other fields. (Mount).

POTATO LEAFHOPPER (Empoasca fabae) - VERMONT - Prevalent in all areas and causing extensive yellowing of alfalfa. Populations exceptionally high; range 10-15 per sweep. (MacCollom, Aug. 16). MARYLAND - Very small numbers found in alfalfa in 22 fields checked in Frederick County and 5 fields in Queen Annes County. Ranged 20-65 per sweep in 5 fields. (U. Md., Ent. Dept.). WISCONSIN - Continues to vary considerably in alfalfa. Considerable yellowing evident in older alfalfa; regrowth slowly becoming reinfested; yellowing minimal in most areas of State. (Wis. Ins. Sur.). MISSOURI - Adults and nymphs range 3-50 per 10 sweeps in alfalfa in central district and 20-100 per 10 sweeps in west central district. (Houser).

LEAFHOPPERS - OHIO - Draeculacephala spp. common in alfalfa in Guernsey, Harrison and Holmes Counties; most plentiful in Guernsey County where approximately 4 per sweep taken. Smaller species collected in large numbers in field in Guernsey County, ranging 15-20 per sweep, included Endria inimica (painted leafhopper), Aceratagallia spp., Graminella spp. and Empoasca spp. Counts ranged 8-10 per sweep

in Harrison County alfalfa and averaged about 4 per sweep in Holmes County. Empoasca inimica most numerous of small leafhoppers collected. Det. by P. Freytag. (Rose). MARYLAND - Small numbers of Aceratagallia sanguinolenta (clover leafhopper) found in 27 fields of alfalfa checked in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Moderate to heavy damage found in many fields of alfalfa in Yuma, Maricopa, Pinal and Graham Counties. Populations apparently increasing rapidly in most areas. (Ariz. Coop. Sur.). OKLAHOMA - Counts per 10 sweeps in alfalfa by county as follows: Bryan 23, Garvin 10, Choctaw 6. Ranged 1-11 per 10 row feet in soybeans checked in Garvin, Murray and Bryan Counties. (Okla. Coop. Sur.).

ALFALFA SEED CHALCID (Bruchophagus roddi) - ARIZONA - Light to moderate populations damaging seed alfalfa in Yuma County. (Ariz. Coop. Sur.).

SPIDER MITES - WASHINGTON - Tetranychus telarius (two-spotted spider mite) moderate to heavy on alfalfa in Quincy area, Grant County. (Landis, Aug. 13). NEVADA - Unspecified species heavy on plantings of silage corn in Fallon area, Churchill County. (Arnett). NEW MEXICO - Tetranychus spp. reported causing some damage to peanuts in Portales Valley, Roosevelt County. (Smith). MARYLAND - Tetranychus sp. caused heavy damage to corn 100 feet in from border of field in Worcester County. Unspecified species appearing in field of soybeans in same county; could become very heavy in spots. (U. Md., Ent. Dept.).

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Ranged 0-3 per 25 sweeps in alfalfa in vicinity of Albuquerque, Bernalillo County. (Heninger). WYOMING - Adults range 40-60 and larvae 10-15 per 100 sweeps in alfalfa in Washakie area. (Marks). VIRGINIA - Averaged approximately 1 larva per 10 sweeps and 1 adult per 20 sweeps in field of alfalfa in Pittsylvania County. (Isakson, Dominick). MARYLAND - Absent or negligible in 22 fields of alfalfa checked in Frederick County; larvae ranged 1.2-4.2 and adults 0-1.4 per sweep in 4 fields. Up to 0.2 adult and 0.5 larva found in 5 fields checked in Queen Annes County. (U. Md., Ent. Dept.). VERMONT - Larvae found in East Fletcher, southern Franklin County. None found by surveys in Georgia Center, St. Albans, Sheldon and Enosburg Falls. Larvae easily found in infested areas of southern section. (MacCollom, Aug. 16).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MISSOURI - Counts per 10 sweeps in soybeans ranged 1-5 in central district and 2-15 in west central district. (Houser). NORTH CAROLINA - Averaged 24 per 25 feet of row in 18 fields of soybeans in Beaufort, Hyde and Washington Counties. (Mount).

LEAF BEETLES (Colaspis spp.) - ALABAMA - Light, widespread infestations occurring in all soybeans in southern Mobile County. (McCollum, Seibels).

FLEA BEETLES - MARYLAND - Systena blanda (pale-striped flea beetle) averaged 8 per sweep in field of alfalfa checked in Frederick County. (U. Md., Ent. Dept.). ALABAMA - Epitrix cucumeris (potato flea beetle) light to medium and widespread in all fields of soybeans in southern Mobile County. (McCollum, Seibels).

MEXICAN BEAN BEETLE (Epilachna varivestis) - VIRGINIA - Ranged light to medium in soybeans checked in Isle of Wight, Nansemond, Southampton and Greensville Counties; populations light in most fields, however. (Isakson). ALABAMA - Observed in several fields of soybeans in Talladega County and reported on this crop in Perry County. (Moore et al.).

BLISTER BEETLES (Epicauta spp.) - WISCONSIN - Varying numbers of Epicauta pennsylvanica (black blister beetle) present in most alfalfa in western and southwestern counties; up to 8 per sweep. (Wis. Ins. Sur.). OKLAHOMA - Epicauta spp. moderate on soybeans in Kay County. E. immaculata feeding on soybeans in Bryan County. (Okla. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Heavy adult flights noted in alfalfa in Dona Ana and Lea Counties. (Kloepfer, Campbell). Averaged 0-2 per 25 sweeps in Albuquerque vicinity, Bernalillo County. (Heninger). UTAH - Populations generally well below normal in alfalfa; large adult numbers rarely

observed. (Knowlton). MARYLAND - Small numbers of larvae found in 27 fields of alfalfa checked in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Appearing in soybeans in south central part of State; ranged 1-17 per 10 row feet in fields checked. (Okla. Coop. Sur.). ARKANSAS - Numbers about same in soybeans as reported in CEIR 15(34): 982. Increased numbers expected in some areas. Moths by the thousands observed in field of soybeans in Jefferson County night of August 16; few seen night of August 17 in Monroe County and moths quite numerous in Lee County night of August 18. (Ark. Ins. Sur.). NORTH CAROLINA - Averaged 19 larvae per 25 feet of row in soybeans in 18 fields in Beaufort, Hyde and Washington Counties. (Mount). VIRGINIA - Absent in soybeans surveyed in Isle of Wight, Nansemond, Southampton and Greensville Counties. (Isakson). MICHIGAN - Larval numbers relatively low in alfalfa checked August 16 in Ingham, Wayne, Monroe, Livingston and Oakland Counties; ranged 0-6 per 25 feet of row in one field; no field problems reported. (Newman, Janes).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Increasing in alfalfa in Graham, Yuma and Maricopa Counties; posing threat to adjacent cotton. (Ariz. Coop. Sur.). ALABAMA - Light populations of young larvae observed feeding in planting of hybrid Sudan grass in Talladega County. (Mathews et al.).

CABBAGE LOOPER (Trichoplusia ni) - ALABAMA - Light, scattered infestations occurring in older soybeans in much of central and southern areas, especially in Covington County. (Pike). NORTH CAROLINA - Larvae, probably this species, averaged 17 per 25 row feet in soybeans in 18 fields checked in Beaufort, Hyde and Washington Counties. (Mount).

VARIEGATED CUTWORM (Peridroma saucia) - CALIFORNIA - Medium populations damaging alfalfa in Ferndale, Humboldt County; a problem in Tulelake, Siskiyou County. (Cal. Coop. Rpt.).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - NEW MEXICO - Damaging peanuts in and around Portales, Roosevelt County. (Smith). OKLAHOMA - Ranged 25-52 per 100 terminals in peanuts in Bryan County; averaged 12 per 100 terminals in Carter County. Reported light in Caddo County. This is third generation. (Okla. Coop. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Light to medium populations defoliating soybeans in most fields in southern Mobile County; several larval stages and moths observed. Light to heavy infestations observed in Talladega County where controls applied to 300 acres of soybeans on one farm. (Moore et al.).

FORAGE LOOPER (Caenurgina erechtea) - KANSAS - Averaged 18 per 25 sweeps in alfalfa in McPherson County. (Ins. Sur. Rpt., Aug. 19).

SILVER-SPOTTED SKIPPER (Epargyreus clarus) - NORTH CAROLINA - Larvae reported in soybeans in Brunswick County field. Degree of infestations not given. Det. by D. A. Mount. (Martin).

WESTERN BLACK FLEA BEETLE (Phyllotreta pusilla) - IDAHO - General throughout rape plantings at Grangeville, Idaho County; ranged up to 50 per sweep. Now concentrating in greener plantings. (Cook, Portman, Studer).

CABBAGE SEEDPOD WEEVIL (Ceutorhynchus assimilis) - IDAHO - Only occasional adult now active in maturing rape plantings at Grangeville, Idaho County. (Cook, Portman, Studer).

YELLOW WOOLLYBEAR (Diacrisia virginica) - IDAHO - Occasionally encountered in rape plantings in Grangeville area, Idaho County. (Cook, Portman, Studer).

DIAMONDBACK MOTH (Plutella maculipennis) - IDAHO - Only empty cocoons now found in rape plantings at Grangeville, Idaho County. (Cook, Portman, Studer).

CABBAGE APHID (Brevicoryne brassicae) - IDAHO - Populations in rape plantings at Grangeville now completely controlled by lacewings, lady beetles and parasitic wasps. (Cook, Portman, Studer).

FRUIT INSECTS

EUROPEAN RED MITE (Panonychus ulmi) - VERMONT - A problem in scattered blocks statewide. (MacCollom, Aug. 16). OHIO - Averaged 66 per leaf on apple tree in large orchard in Licking County. Considerable bronzing apparent. Few fresh eggs seen on permanent wood. (Rose). First overwintering eggs of season present at Wooster, Wayne County. (Rader). INDIANA - Averaged 3-4 per leaf in Vincennes area orchards. Combined population of this and Tetranychus telarius (two-spotted spider mite) ranges up to 50 per leaf. (Cleveland). MICHIGAN - High populations of adults and nymphs persist in orchards in southwest section; control difficult. (Wooley). OREGON - Populations built up to high level in pear orchards in Jackson County since August 1. (Cyphers). Began laying winter eggs on spurs of Newtown apple trees in Hood River County August 18. (Peifer).

SPIDER MITES - INDIANA - Mobile forms of Tetranychus telarius (two-spotted spider mite) average 4-5 per leaf in orchards in Vincennes area; populations increasing. (Cleveland). Increased to problem levels in northern section. (Matthew). UTAH - Tetranychus sp. discoloring pear foliage in orchard at Providence, Cache County. (Knowlton). OREGON - Eotetranychus carpini built up to high level in pear orchards in Jackson County since August 1. (Cyphers).

CODLING MOTH (Carpocapsa pomonella) - VERMONT - Continued warm weather may cause threat from second brood next week. (MacCollom, Aug. 16). NEW YORK - Summer-brood activity high in Hudson Valley where apparent peak of moth flight occurred August 6. Problem orchards should be watched. (N.Y. Wkly. Rpt., Aug. 6). MICHIGAN - Second-brood adults continue to emerge in cage in Kent County. Peak occurred in late July and early August. New larval "stings" appeared on unsprayed trees in late July. (Gilmore). UTAH - Very heavy in home orchards throughout Sanpete County. (Purnell, Knowlton). Infested 98 percent of apples in home orchard at Logan, Cache County. (Knowlton).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - NEW YORK - Adults still flying in Niagara County. (N.Y. Wkly. Rpt., Aug. 16). NEW JERSEY - Total of 23 adults caught in blacklight trap at Glassboro on August 16, 20. (Ins.-Dis. Newsltr.). INDIANA - Heavy in bait traps in Vincennes area during August. (Cleveland). CALIFORNIA - Larvae taken in peach fruit in Colusa, Colusa County. This is a new county record. (Cal. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - OHIO - Active on apple, wild cherry, walnut and other deciduous trees statewide; webs commonly seen in several counties in eastern section. (Treece, Rose).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - INDIANA - Bait traps catches in Vincennes area show very slight increase. (Cleveland).

LESSER PEACH TREE BORER (Synanthedon pictipes) - INDIANA - Populations steady after slight drop 2 weeks ago. All stages present in trees in Vincennes area. (Cleveland).

A CERAMBYCID BEETLE (Parandra brunnea) - INDIANA - Found in older pear trees locally in Marion County. (Clark).

PEAR-SLUG (Caliroa cerasi) - NEW HAMPSHIRE - Larvae numerous on cherry foliage in abandoned orchard at East Kingston. (Sutherland).

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - Activity still unusually high. Over 50 adults observed in less than 3 minutes in block of abandoned trees. Continued protection urged. (MacCollom, Aug. 16). NEW YORK - Adult emergence

dropped to low level in cages at Highland and continues at low level at Geneva and in Clinton and Niagara Counties. Adults expected to migrate to commercial orchards from unsprayed trees. Problem orchards may need additional protection. (N.Y. Wkly. Rpt., Aug. 16). NEW JERSEY - Total of 15 adults caught on 2 sticky board traps at Hardingville August 20. (Ins.-Dis. Newsltr.). OHIO - Infesting apples in home planting in Franklin County. (Holdsworth). WISCONSIN - Large numbers of adults continue in ammonia bait trap in crab apple tree. Total of 39 caught since last report. (Wis. Ins. Sur.).

CHERRY MAGGOT (Rhagoletis cingulata) - NEW YORK - Serious in some areas this year. Some late harvested cherries not sold due to infestation. (N.Y. Wkly. Rpt., Aug. 16).

PEAR PSYLLA (Psylla pyricola) - OREGON - Less troublesome than last year in treated pear orchards in Jackson County. (Cyphers).

SAN JOSE SCALE (Aspidiotus perniciosus) - FLORIDA - Scattered and severely damaging stem of plum in nursery at Glen St. Mary, Baker County. (Collins).

Citrus Insect Situation in Florida - Mid-August - CITRUS RUST MITE (Phyllocoptruta oleivora) infested leaves in 44 percent of groves (norm 64 percent); 22 percent economic (norm 48 percent); and infested fruit in 55 percent of groves (norm 71 percent); 34 percent economic (norm 54 percent). Population lowest for August in 15 years of record. About 8 percent of groves have heavy infestations with a few in all districts. Slight increase expected. Highest districts are west, east and south. TEXAS CITRUS MITE (Eutetranychus banksi) infested 38 percent of groves (norm 53 percent); 23 percent economic (norm 25 percent). Sharp decrease resulted in below average population. Further decrease to very low level expected. Highest district is east. CITRUS RED MITE (Panonychus citri) infested 46 percent of groves (norm 51 percent); 23 percent economic (norm 29 percent). Population dropped into very low range; will continue low through September. Highest districts are east and north. BLACK SCALE (Saissetia oleae) infested 73 percent of groves (norm 45 percent); 44 percent economic (norm 24 percent). Population decreased but is still highest August level in 15 years of record. Although further decrease expected infestations will be heavier than normal. Highest districts are east, central, west and south. GLOVER SCALE (Lepidosaphes gloverii) infested 79 percent of groves; 19 percent economic. Above normal but dropped into moderate range; further decrease expected. Highest district is east. YELLOW SCALE (Aonidiella citrina) infested 64 percent of groves; 14 percent economic. Population above normal; little change expected. Highest districts are central and east. PURPLE SCALE (Lepidosaphes beckii), CHAFF SCALE (Parlatoria pergandii), MEALYBUGS and WHITEFLIES are near normal abundance. Decrease to unimportant level expected in all districts. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred)).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Heavy infestation on tangerines on Yuma Mesa, Yuma County, caused heavy damage and required controls. (Ariz. Coop. Sur.).

A LEAF ROLLER MOTH (Platynota stultana) - ARIZONA - Light to moderate larval populations found in backyard citrus in Maricopa County and in nurseries and greenhouses in Yuma County. (Ariz. Coop. Sur.).

MEXICAN FRUIT FLY (Anastrepha ludens) - MEXICO - Total of 15 native adults trapped at Tijuana. Eight to eleventh releases of marked sterile male flies made at Tijuana and seventh to tenth made at Ensenada; total of 13,993 marked sterile flies recaptured in traps during July. Total of 3 marked male flies captured at Tecate although no releases made there this season. (PPC Mex. Reg., July Rpt.).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - MEXICO - Total of 3,017 traps inspected 6,360 times; all negative. (PPC Mex. Reg., July Rpt.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Chemical Control Zone - Inspection of 287,750 citrus trees on 2,568 properties in States of Tamaulipas, Nuevo Leon, Sonora and Baja California revealed 46 infested leaves on 13 trees on a property at Linares, Nuevo Leon; 204,644 were nursery trees. First and second spray treatments applied to 893 trees on 2 properties and third treatment applied to 1,383 trees on 8 other properties in Nuevo Leon. Biological Control Zone - Inspection of 26,259 citrus trees on 15 properties in Municipios Hidalgo and Gumez, Tamaulipas, revealed 956 infested trees on 9 properties in Municipio Gumez. Parasite liberation needed on 92 properties in States of Campeche, Guerrero, Jalisco, Morelos, San Luis Potosi, Sinaloa, Sonora and Veracruz; possibility of parasite captures on 1 property in State of Campeche. Total of 494,500 Prospaltella opulenta (a eulophid) in Municipio Gumez, Tamaulipas, and 738,300 received from Cuidades Victoria, Tamaulipas, and Apatzingan, Michoacan; 731,100 released at Villahermosa, Tabasco. Parasitism reported from 10 States and 1 Territory. (PPC Mex. Reg., July Rpt.).

OBLIQUE-BANDED LEAF ROLLER(Choristoneura rosaceana) - CALIFORNIA - Larvae medium on almond foliage in Chico, Butte County. (Cal. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Moderately damaging to pecans in Creek, Okfuskee and Payne Counties. (Okla. Coop. Sur.).

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Probably second generation causing light to moderate damage to pecans in Creek, Okfuskee and Cotton Counties. (Okla. Coop. Sur.).

SPITTLEBUGS - SOUTH CAROLINA - Caused trouble on pecan trees in Charleston, Dillon, Horry and Kershaw Counties. (Nettles et al.). UTAH - Caused moderate damage to grapes in several vineyards in Hurricane-La Verkin-Toquerville area of Washington County. (Knowlton, Huber).

GRAPE BERRY MOTH (Paralobesia viteana) - UTAH - Larvae caused moderate damage to grapes, chiefly in Hurricane area, Washington County. (Knowlton, Huber).

LEAFHOPPERS - UTAH - Discoloring grape foliage in Huntington area, Emery County. (Olson, Knowlton). Erythroneura ziczac (Virginia-creeper leafhopper) discoloring foliage of one variety of grape at Fillmore, Millard County. (Knowlton).

SCARABS (Cotinis spp.) - ARIZONA - C. texana damaging grapes and peaches in most areas of Graham and Cochise Counties. (Ariz. Coop. Sur.). OKLAHOMA - C. nitida (green June beetle) continues to damage ripening fruit in north central and central areas. (Okla. Coop. Sur.).

SAY BLISTER BEETLE (Pomphopoea sayi) - NEW HAMPSHIRE - Injuring high bush blueberries at Alston. (Conklin).

HEMISPHERICAL SCALE (Saissetia hemisphaerica) - FLORIDA - All stages scattered and moderately damaging leaves of olive in nursery at Eau Gallie, Brevard County. (Levan, July 27).

TRUCK CROP INSECTS

HORNWORMS - UTAH - Protoparce quinquemaculata (tomato hornworm) more damaging than normal on potatoes and tomatoes in Sanpete County (Purnell, Knowlton). Unspecified species caused moderate damage to garden tomatoes in Carbon County. (Horn, Knowlton). ARIZONA - Medium larval populations of P. quinquemaculata damaging tomato plants in areas of Graham County. (Ariz. Coop. Sur.).

A BLISTER BEETLE (Meloe augusticollis) - VERMONT - Feeding extensively on potatoes in gardens near recently cut meadows in Essex County. (MacCollom, Aug. 16). NEW HAMPSHIRE - Noticeable feeding on potatoes at Plymouth. (Conklin, Hutchins).

VINEGAR FLIES (Drosophila spp.) - NEW JERSEY - Average number per 3-inch slit on August 16: Bridgeton 95, Salem 75, Sweedsboro 100+, Hammonton 97, Burlington 95, Mercerville 57 and Edinburg 13. Building up rapidly on tomatoes in central and southern counties. Controls recommended. (Ins.-Dis. Newsltr.). MARYLAND - Light in tomatoes in Wicomico County. (U. Md., Ent. Dept.).

PEPPER MAGGOT (Zonosemata electa) - NEW JERSEY - Total of 6 caught on 6 sticky board traps at Cedarville August 20. (Ins.-Dis. Newsltr.).

GRASSHOPPERS - UTAH - Causing some damage to ripening tomatoes in canning areas and home gardens. (Knowlton).

A LEAFHOPPER (Empoasca filamenta) - UTAH - Numerous on potatoes in Sanpete County. (Knowlton, Purnell).

Aphids on Potatoes in Maine - Entomogenous fungi largely responsible for 35 percent drop in aphid numbers on untreated potatoes in Presque Isle area, Aroostook County. Average of 8 aphids of all species on 3 leaves examined from top, middle and bottom of untreated plants on Aroostook Farm. Macrosiphum euphoribae (potato aphid) continues predominant followed by Myzus persicae (green peach aphid), Aphis nasturtii (buckthorn aphid) and Acyrthosiphon solani (foxglove aphid). Fungi epizootics in various stages of development in aphid populations on commercial potatoes in area. Effect of fungi on aphid numbers appears greater in central and northern Aroostook County. (Shands, et al.).

POTATO APHID (Macrosiphum euphorbiae) - WISCONSIN - Appearing on potatoes in home gardens. (Wis. Ins. Sur.).

WESTERN SUBTERRANEAN TERMITE (Reticulitermes hesperus) - CALIFORNIA - Medium in roots of pepper plants in Summit City, Shasta County. (Cal. Coop. Rpt.).

TOMATO RUSSET MITE (Aculus lycopersici) - CALIFORNIA - Heavy locally on tomato plantings in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - Very prevalent on cabbage in Orleans County. (N.Y. Wkly. Rpt., Aug. 16). MARYLAND - Moderate on cabbage in Queen Annes County. (U. Md., Ent. Dept.). UTAH - Larvae, largely this species, damaging cabbage in gardens in Utah, Sanpete, Iron, and Juab Counties. (Knowlton). WISCONSIN - Adults common in many plantings of cole crops; larval injury noticeable in poorly treated plantings. (Wis. Ins. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - NEW HAMPSHIRE - Late instars damaging crucifers in Durham. First 2 adults caught in blacklight trap at Lee. (Morse, Sutherland). NEW YORK - Few larvae observed on cabbage in Orleans County. (N.Y. Wkly. Rpt., Aug. 16). NEW JERSEY - Problem on cole crops in many areas. (Ins.-Dis. Newsltr.). MARYLAND - Very few on tomatoes in Worchester County. (U. Md., Ent. Dept.). NEVADA - Populations reduced to noneconomic levels in most treated fields. (Batchelder).

HARLEQUIN BUG (Murgantia histrionica) - ALABAMA - Heavy and widespread on collards and cabbage in gardens in Bullock County. (Stone).

CABBAGE APHID (Brevicoryne brassicae) - UTAH - Numerous in gardens in Sanpete and Juab Counties. (Knowlton). WISCONSIN - Probably this species appearing on kohlrabi in Kenosha County. (Wis. Ins. Sur.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - ALABAMA - Causing considerable damage to 500-acre planting of southern table peas in Bullock County. (Stone, Bagby). SOUTH CAROLINA - Attacking pea and bean plants at Allendale. (Nettles, et al., Aug. 17).

GREEN CLOVERWORM (Plathypena scabra) - MICHIGAN - Larval infestations relatively low in fields on navy beans checked in Ingham, Wayne, Monroe, Livingston and Oakland Counties August 16. (Newman, Janes).

LIMA-BEAN POD BORER (Etiella zinckenella) - WASHINGTON - Problem on lima beans in Ephrata area, Grant County. (Landis, Aug. 13).

MEXICAN BEAN BEETLE (Epilachna varivestis) - IDAHO - Survey negative in formerly infested areas at Jerome. (Priest).

A LEAF MINER FLY (Phytobia maculosa) - CALIFORNIA - Light on asparagus in Tudor, Sutter County. This is a new county record. (Cal. Coop. Rpt.).

BULB MITE (Rhizoglyphus echinopus) - CALIFORNIA - Heavy infestations damaging red torpedo onions in Pleasant Hill, Contra Costa County. (Cal. Coop. Rpt.).

BEET WEBWORM (Loxostege sticticalis) - UTAH - Continues moderate in light trap in Utah County. (Knowlton).

BEET LEAFHOPPER (Circulifer tenellus) - WYOMING - No definite symptoms of curly top noted in sugar beets in Washakie County. (Marks).

MELON APHID (Aphis gossypii) - RHODE ISLAND - Heavy on cucurbits in Narragansett and Exeter, Washington County. (Mueller, Mathewson). UTAH - Damaging in most melon patches in Sanpete County. (Purnell, Knowlton). WISCONSIN - Aphids, probably this species, appearing on melons in Kenosha County.

SQUASH BUG (Anasa tristis) - UTAH - Moderatly damaging to squash, particularly in "Dixie" area pf Washington County (Huber, Knowlton); common in Salt Lake and Davis Counties. (Knowlton).

CUCUMBER BEETLES - MARYLAND - Acalymma vittatum (striped cucumber beetle) and Diabrotica undecimpunctata howardi (spotted cucumber beetle) rather common in cucumber field being harvested in Montgomery County. (U. Md., Ent. Dept.).

DARKLING BEETLES (Blapstinus spp.) - ARIZONA - Adults damaged young cantaloups in Yuma Valley, Yuma County. (Ariz. Coop. Sur.).

ROUGH-SKINNED CUTWORM (Proxenus mindara) - CALIFORNIA - Larvae feeding on cantaloup fruit in fields in Fresno County. No serious culling resulted. (Cal. Coop. Rpt.).

MITES - NEW JERSEY - Still troublesome in some strawberry fields; may buildup in new beds. (Ins. Dis. Newsltr.).

VARIEGATED CUTWORM (Peridroma saucia) - WASHINGTON - More abundant than usual on beets, potatoes and other crops in Walla Walla area; pupating and occasional adult found August 2. (Landis, Aug. 13).

TOMATO FRUITWORM (Heliothis zea) - NEW JERSEY - Growers urged to watch for infestations in lima beans. (Ins. Dis. Newsltr.). UTAH - Eggs not yet found on leaves of tomatoes examined each week in canning districts of Box Elder, Weber and Davis Counties. (Dorst, Knowlton).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - UTAH - Causing some damage to canning tomatoes from Utah County north through Box Elder County. (Knowlton). WASHINGTON - Counts per square foot ranged 4-8 on lentils and up to 18 on peas near Colton, Whitman County. Larvae mostly pupating. (Freeman, Aug. 13).

GREEN PEACH APHID (Myzus persicae) - NEW JERSEY - Problem on cole crops in many areas. Heavy flights observed on many vegetable crops. (Ins.-Dis. Newsltr.). MARYLAND - Light in pepper field in Queen Annes County; controlled by spraying. (U. Md., Ent. Dept.).

POTATO LEAFHOPPER (Empoasca fabae) - NEW YORK - Still building up on beans. Controls recommended where young nymphs and adults numerous. (N.Y. Wkly. Rpt., Aug. 16). NEW JERSEY - Counts from 10 fields in central section ranged 44-652 and averaged 335 per 25 sweeps, on August 20. (Ins.-Dis. Newsltr.). MARYLAND - Light in pepper field and on tomatoes in Queen Annes County; controlled by spraying. (U. Md., Ent. Dept.).

APHIDS - NEW YORK - Increasing rapidly on cabbage in Orleans County. UTAH - Moderately serious on melons in Green River and other areas of Emery County. (Knowlton, Olson).

FLEA BEETLES - MARYLAND - Moderate on cabbage in Queen Annes County. (U. Md., Ent. Dept.). ARIZONA - Moderate populations of Chaetocnema ectypa (desert corn flea beetle) and Systena spp. damaging cantaloups in Yuma Valley area, Yuma County. Controls necessary. (Ariz. Coop. Sur.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) WASHINGTON - Moderate to heavy on beans and potatoes in Quincy area, Grant County. (Landis, Aug. 13). CALIFORNIA - Heavy on beans in Fresno, Fresno County. (Cal. Coop. Rpt.).

TOBACCO INSECTS

VARIEGATED CUTWORM (Peridroma saucia) - WISCONSIN - Larval populations abnormally high in some dense tobacco stands; considerable defoliation up to 3 feet above ground observed. Although larvae occur throughout small fields of tobacco, most serious damage appears in marginal rows. Treatment planned. (Wis. Ins. Sur.).

TOMATO HORNWORM (Protoparce quinquemaculata) - WISCONSIN - Defoliation of tobacco ranges light to moderate in southern area tobacco; many larvae entering soil to pupate. (Wis. Ins. Sur.).

HORMWORMS (Protoparce spp.) VIRGINIA - Generally light on tobacco over Halifax County. (Dominick, Reynolds, Aug. 12). MARYLAND - These and Heliothis spp. (budworms) very low on tobacco in St. Marys County; found in 3 of 15 fields surveyed. (U. Md., Ent. Dept.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - WISCONSIN - Observed seriously damaging tobacco leaves in field adjacent to squash in Dane County. (Wis. Ins. Sur.).

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Infested 10-44 (average 24) percent of tobacco plants in 15 fields checked in St. Marys County; infestation not serious. (U. Md., Ent. Dept.). VIRGINIA - Medium on tobacco throughout Halifax County. (Dominick, Reynolds, Aug. 12).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Infested 10-68 (average 34) percent of tobacco plants in 15 fields surveyed in St. Marys County. Infestations heavy in one field; winged aphids common in 2 fields. (U. Md., Ent. Dept.). VIRGINIA - Spotted, medium to heavy infestations noted in tobacco over Halifax County. (Dominick, Reynolds, Aug. 12).

AN APHID (Macrosiphum schranki) - WISCONSIN - Winged forms abundant on tobacco

but causing no damage to plants. (Wis. Ins. Sur.).

RED-LEGGED GRASSHOPPER (Melanoplus femurrubrum) - WISCONSIN - Some feeding on tobacco in Dane County evident. (Wis. Ins. Sur.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - VIRGINIA - Infestations very high in untreated fields, with as many as 9 adults found in 1 bloom in Greensville County. Migrations make effective insecticide applications necessary if potential yield to be realized. (Isakson, Flippen). SOUTH CAROLINA - Weevil control being maintained in some treated fields in Florence area; however, migratory weevils eliminated all squares in other fields. Weevils ranged 0-20 per 100 squares in treated plots and 6-27 per 100 squares in untreated plots. Larval infestations range 1-91 percent in treated plots and 83-100 percent in untreated plots. (Taft et al., Aug. 18). Percent punctured squares averaged approximately 11 percent in fields where good control programs carried out and crop still being made, compared to 60 percent punctured squares in untreated fields. Slight decrease in weevil pressure noted where growers maintained 5-day schedule during migration. Weevils destroyed all fruit in unprotected fields. (Cott. Ltr., Aug. 17). TENNESSEE - Weevils continue to cause considerable damage in regularly infested counties. Migration in full swing over area; more adults being found in those areas where weevils present all season. Migrating weevils will probably pass through fields with few squares and blooms and move into more rank, succulent fields. Where square counts still feasible, infestation averaged 56 percent compared with 44 percent at same time previous week. Infestation averaged 21 percent at this time in 1964. Considerable young boll injury occurring where squares and blooms scarce in southern tier of counties. (Locke, Aug. 18).

ALABAMA - Overall infestation apparently equals any of past 10 years in State and exceeds extreme infestations of 1962. As result of high "hatch out", 5-25 young weevils feeding in scarce blooms not uncommon in many fields; especially apparent in poorly treated fields. Bolls up to two-thirds grown severely attacked in fields where squares becoming scarce. (McQueen).

MISSISSIPPI - Infestation increased in delta counties. In some instances, this due to decrease in squares in fields cutting out, in other instances due to heavy emergence of new adults during past 10 days and to local movement. (Pfrimmer et al., Aug. 19). LOUISIANA - Infestations in young cotton increased over most of State. Treatments will probably be required in those fields not already treated. Most early planted cotton being treated; recommended insecticides keeping weevils under control. Interval between treatments should be shortened to 3 days if weevils not being controlled. (Tynes, Aug. 16). Infestation in Madison Parish averaged 10 percent in 145 fields checked; range 0-79 percent. (Cleveland et al., Aug. 12). ARKANSAS - Continues a problem to many growers in State; due to rapid weevil emergence and leveling off or decline in squaring. Some local movement from old field cutting out to fields still growing rapidly can be expected. Some increase in infestations may occur in fields where infestation previously low. (Barnes, Roberts, Aug. 13). OKLAHOMA - Punctured square counts by county as follows: Jackson, as high as 50 percent in few fields; Cotton, light to moderate; Tillman, 4-12 percent; Caddo, moderate; Beckham, 4-10 percent; Grady, 20-40 percent; McClain, 5-10 percent; Garvin, 22 percent with adults in blooms in Pauls Valley area; Carter, 10 percent; Bryan, 4 percent; Choctaw, 21 percent. (Okla. Coop. Sur.). TEXAS - Infestations increased in McLennan and Falls Counties as weevils concentrated in few remaining fields with fruiting cotton. Percent infestation ranged 1.9-53 (average 25.2) percent in 12 treated fields and ranged 33.8-75 (average 44.4) percent in 6 untreated fields in area. Overall infestations 26.9 percent. (Cowan et al.).

A WEEVIL (Anthonomus sp.) - ARIZONA - Few adults being found on cotton in Hidden Valley and in Stanfield area of Pinal County. (Ariz. Coop. Sur.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Infestations generally appear to be on decline from highs of past weeks in Florence area. Larval infestations range 0.2-2 percent in treated plots and 1.5-3 percent in untreated plots. Total of 396 H. zea (bollworm) and 2 H. virescens (tobacco budworm) adults taken in light trap. (Taft et al., Aug. 18). Serious in cotton in scattered areas of State. Difficulty in control reported from Lee County; larvae determined as H. virescens. Most common species at this time, however, is H. zea. (Cott. Ltr., Aug. 17). TENNESSEE - Infestations for this time of year still much lower than for several years in western area. Heavier, however, where early season controls begun and then discontinued. (Locke, Aug. 18). ALABAMA - Bollworms continue of major importance in isolated counties and especially in isolated fields of late cotton. Egg laying occurring largely on squares, blooms and stems rather than terminals. Considerable feeding by young larvae reported where they enter tips of small bolls as bloom sheds. (McQueen). MISSISSIPPI - Moth flight increased greatly in Rolling Fork and Stoneville areas. Very few larvae found but egg laying higher than any previous time this season. Eggs present in terminals, on dried blooms, bracts around squares and throughout plant in delta county area. (Pfrimmer et al., Aug. 19). Larvae increasing in many fields of younger cotton or fields where moisture adequate. Moths laying eggs in terminals and on bracts and stuck blooms. Moth flight underway. (Young, Bennett, Aug. 23). LOUISIANA - Numbers of eggs and small larvae increased sharply as expected. Application of recommended insecticides at 4-5 day intervals necessary to control larvae. Growers should be alert for increase in larval numbers from now to end of season. (Tynes, Aug. 16). Percent damaged squares ranged 0-5 (average 3) in 145 fields in Madison Parish. Total of 308 H. zea and H. virescens taken in light trap; this is 3.5 times as many H. zea as reported previous week. (Cleveland et al., Aug. 12).

ARKANSAS - Moth activity increased on cotton in many areas; numbers on sugar lines increased in Jefferson, Monroe and Lee Counties. Egg counts on cotton in Jefferson County 3 times number of previous week. (Ark. Ins. Sur.). Infestations variable at this time; egg deposition heavy in some fields. Egg counts below those of last year in some southeast counties, but at sufficient level to result in heavy larval numbers. Eggs difficult to find in fields in other counties where counts usually high at this time. Generally, infestations remain very low for this time of year in east central and northeast areas. All fields where controls not now underway should be watched closely. (Barnes, Roberts, Aug. 13). MISSOURI - H. zea ranged 1-40 per 100 terminals in 36 percent of fields checked. Treatments recommended for 963 acres in 35 fields. (Jones). OKLAHOMA - Egg and larvae generally light in cotton in southern half of State. Most infestations range 1-15 percent, with occasional counts up to 36 percent. Considerable moth activity noted in Grady, Jackson and Bryan Counties. (Okla. Coop. Sur.).

TEXAS - Increase in infestation evident in few remaining fruiting fields of cotton in McLennan and Falls Counties. Eggs averaged 14.8 and larvae 15.5 per 100 terminals in 12 treated fields. In 6 untreated fields, eggs averaged 12.3 and larvae 24.3 per 100 terminals. Square injury averaged 11.5 percent in treated fields and 20.6 percent in untreated fields. Boll injury averaged 5.4 percent in 9 treated fields and 11.1 percent in 6 untreated fields. Of 530 larvae collected, 365 or 68.9 percent determined as H. virescens. (Cowan et al.). NEW MEXICO - Few H. zea larvae found feeding on cotton in Cotton City area of Hidalgo County. (Campbell). Some controls underway in Luna and Dona Ana Counties. Some new hatches noted in southern Dona Ana County. (Garcia, Gomez). ARIZONA - New hatches of H. zea occurring in Yuma, Maricopa, Pinal and Pima Counties. Populations have not yet reached expected levels; remain below normal for time of year. Predator numbers appear to have decreased in Yuma and Maricopa Counties. (Ariz. Coop. Sur.). CALIFORNIA - Counts high in some fields of cotton in Fresno-Clovis-Sanger area, Fresno County; larvae range 1-3 per 100 terminals elsewhere in county. (Stromberg, Aug. 11). Larvae evident in some fields throughout valley in Kern County, although numbers still relatively low. (Leigh, Aug. 13).

BEET ARMYWORM (Spodoptera exigua) - ALABAMA - Small numbers observed feeding on bracts and on squares in isolated spots in cotton where larvae apparently moved from rough pigweed in fields. Most larvae still on pigweed. (McQueen). ARIZONA - Scattered infestations increasing and damage appearing in fields in Pinal and Maricopa Counties. (Ariz. Coop. Sur.). CALIFORNIA - Larvae evident in many fields of cotton in Kern County. Feeding as bollworms on squares in some instances in Tulare County. (Leigh, Aug. 13).

CABBAGE LOOPER (Trichoplusia ni) - MISSISSIPPI - Moth flight increased considerable in delta counties; particularly in southern section. Small larvae being found in many fields. Foliage loss negligible at present. (Pfrimmer et al., Aug. 19). CALIFORNIA - Larvae evident in most cotton in Kern County, although no situation justified controls. (Leigh, Aug. 13).

FALSE CELERY LEAF TIER (Udea profundalis) - CALIFORNIA - Common in cotton throughout Corcoran, Waukena and Tulare areas of Kern County; appears sufficiently abundant in some fields to require controls. (Leigh, Aug. 13).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Infestation increasing on cotton in lower Yuma Valley in Yuma County. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Moderate nymphal populations continue to cause damage to cotton and require controls in Yuma, Maricopa, Pinal, Pima and Graham Counties. (Ariz. Coop. Sur.). CALIFORNIA - Low to moderate counts noted in cotton in most areas of Fresno County; high nymphal counts made in Clovis-Sanger area. (Stromberg, Aug. 11). Quite abundant in several fields in Kern and Tulare County area ; in most instances, no controls applied to these fields for past 3-4 weeks. Counts ranged 3-7 adults and 5-30 nymphs per 50 sweeps. In fields with higher counts, all small squares destroyed and larger squares show severe puncturing. (Leigh, Aug. 13).

PLANT BUGS - LOUISIANA - Lygus lineolaris (tarnished plant bug) and unspecified fleahoppers continue light in cotton in Madison Parish. (Cleveland et al., Aug. 12). MISSOURI - Adults and nymphs of several species range 1-23 per 100 plants in 79 percent of fields checked. (Jones). NEW MEXICO - Spanogonicua albofasciatus (a black cotton fleahopper) present in most cotton in Dona Ana County; however, populations remain light. (N. M. Coop. Rpt.).

APHIDS - MISSISSIPPI - Occasional infestation found in young, rank cotton in delta counties. (Pfrimmer et al., Aug. 19). LOUISIANA - Controls necessary in several fields in Tallulah area where not previously applied. (Tynes, Aug. 16). Spotted infestations occurred in Madison Parish; some controls applied. (Cleveland et al., Aug. 12). OKLAHOMA - Moderate infestations of Aphis gossypii (cotton aphid) reported in few fields of cotton in Jackson and Choctaw Counties. (Okla. Coop. Sur.). NEW MEXICO - A. gossypii necessitated controls in some fields in Dona Ana County. (Lane). CALIFORNIA - Locally high populations found in Firebaugh area of Fresno County; not yet at economic levels. (Stromberg, Aug. 11).

POTATO LEAFHOPPER (Empoasca fabae) - CALIFORNIA - Still found on cotton in Clovis and Friant area of Fresno County. (Stromberg, Aug. 11). Remains abundant in some cotton along east side of valley in Kern County; in some instances, little fruiting has occurred. Control will be necessary if good yield to be obtained. (Leigh, Aug. 13).

SPIDER MITES - SOUTH CAROLINA - Only spotty infestations reported in some cotton. (Cott. Ltr., Aug. 17). TENNESSEE - Continue primary pests of cotton outside regularly weevil-infested area. Considerable damage occurring where controls not applied. (Locke, Aug. 18). ALABAMA - Few infestations reported in cotton. (McQueen). MISSISSIPPI - Infestations continue in many fields in delta counties. Rains in some areas aided in check of population increases, but severe damage occurring to cotton in drier areas. (Pfrimmer et al., Aug. 19). LOUISIANA - Light infestations noted in Madison Parish cotton. (Cleveland et al., Aug. 12). ARKANSAS - Continue to cause concern to cotton growers in some fields across

State. Infestations more general throughout northeastern counties; controls should be continued until infestations disappear. (Barnes, Roberts, Aug. 13). MISSOURI - Tetranychus spp. present in many fields of cotton throughout southeast district. Damage ranged light to heavy, with treatments recommended for 178 acres in 31 fields. (Jones). CALIFORNIA - Under control in most cotton in Fresno County. (Stromberg, Aug. 11). Abundant in many fields in Kern County, with reddening of plants appearing. Where most severe, control may still be profitable at this time. Lighter infestations will cause reddening of plants, but not likely to decrease yield. (Leigh, Aug. 13).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

CONIFER SAWFLIES - MICHIGAN - Larvae of Neodiprion lecontei (red-headed pine sawfly) numerous and causing defoliation of red pine in plantation in Wexford County and tree in Mackinac County; present in other areas but no reports of serious damage. Larvae of N. pratti banksianae (jack-pine sawfly) defoliating jack pine north of Newberry, Luce County. (Flink). MINNESOTA - Cluster of late instars of N. lecontei feeding on roadside jack pine in Crow Wing County. Some late instars of Diprion similis (introduced pine sawfly) first generation still feeding; adults of second generation mostly emerged in central district; larvae appearing. Parasitism of cocoons very low on White Earth Forest; many adults to emerge. Most eggs unhatched in area. (Minn. Ins. Rpt.).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - NORTH CAROLINA - Situation improved slightly in upper Piedmont but Davie, Forsyth, Iredell and Yadkin Counties still contain many infested spots; some spots 6-7 acres. Surrounding counties of Randolph, Davidson, Rowan, Guilford, Stokes and Surry show some activity but apparently slightly decreased. Approximately 20 relatively small spots found in Vance and Granville Counties in aerial survey previous week. All known active spots in Hertford, Perquimans and Beaufort Counties controlled but no aerial survey made for several weeks. (For. Pest Newsltr., Aug. 10).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - VIRGINIA - Attacking loblolly pine in Isle of Wight County. (Isakson, Jones). NORTH CAROLINA - Infested areas of up to 50 trees and one-fifth acre noted in Durham, Granville and Richmond Counties. (For. Pest Newsltr., Aug. 10).

CONIFER BARK BEETLES (Dendroctonus spp.) - CALIFORNIA - D. brevicomis (western pine beetle) and D. ponderosae (mountain pine beetle) causing losses of ponderosa and sugar pines in groups of 10 trees or more in Seiad Valley, Klamath National Forest; damage increased. (E. Weinberg, USFS).

ENGRAVER BEETLES (Ips spp.) - NORTH CAROLINA - Outbreak occurred on 200 acres of pine in Richmond County following fire; infested 50 trees in Granville County. (For. Pest Newsltr., Aug. 10).

JACK-PINE BUDWORM (Choristoneura pinus) - MICHIGAN - Defoliation by larvae main insect problem of forests on Lower Peninsula this season. Caused heavy defoliation of jack pines in southeastern Cheboygan, southwestern Presque Isle, eastern Otsego, Montmorency, Crawford, Oscoda, Alcona, eastern Kalkaska, northeastern Missaukee, northern Roscommon and northwestern Ogemaw Counties. (Flink).

AN OLETHREUTID MOTH (Eucosma sonomana) - MICHIGAN - Larvae found throughout most of Upper Peninsula; causing deformity of jack pine in Missaukee and Crawford Counties in Lower Peninsula. (Flink).

PINE TUSSOCK MOTH (Dasychira plagiata) - WISCONSIN - About 5 percent of eggs hatched by August 13 in Douglas County area. (Wis. Ins. Sur.).

A COREID BUG (Leptoglossus occidentalis) - MISSOURI - Feeding on needles and green cones of Austrian pine in St. Joseph area, Buchanan County. (Craig, Aug. 12).

LARCH SAWFLY (Pristiphora erichsonii) - MINNESOTA - Defoliation of tamarack stands very noticeable in many areas of Hubbard and Beltrami Counties. Feeding completed. (Minn. Ins. Rpt.). MICHIGAN - Defoliation of larch by larvae continues throughout northern area but at lower level than in late 1950 when nearly complete defoliation occurred. (Flink).

WHITE-FIR NEEDLE MINER (Epinotia meritana) - CALIFORNIA - Causing considerable damage to red fir trees in Quartz Mountain area, Sierra National Forest. About 80 percent of stands attacked. (C. Sikora, USFS).

BAGWORM (Thyridopteryx ephemeraeformis) - MARYLAND - Destroying cedars in Prince Georges County. (U. Md., Ent., Dept.). NORTH CAROLINA - Defoliated 10 redcedars in Columbus County; several eastern redcedars infested in Buncombe County. (For. Pest Newsltr., Aug. 10). OKLAHOMA - Moderate to heavy on evergreens in Osage, Garfield, Mayes and Cleveland Counties. (Okla. Coop. Sur.). NEBRASKA - Heavy and completely defoliated some evergreens in Lincoln, Lancaster County. (Rhine).

BAGWORMS - SOUTH CAROLINA - Large numbers on spreading junipers and other evergreens; controls recommended. (Nettles et al., Aug. 17).

APHIDS - UTAH - Euceraphis gillettei moderately abundant on native birch foliage in Logan and Ogden Canyons in northern area, in Oak Creek Canyon, Millard County, and at Pine Valley, Washington County. (Knowlton). WISCONSIN - Undetermined species, probably Myzocallis ulmifolii (elm leaf aphid), in conjunction with a mite species caused premature leaf drop on elms in Kenosha County. (Wis. Ins. Sur.).

HACKBERRY-NIPPLE-GALL MAKER (Pachypsylla celtidismamma) - OHIO - Galls observed on hackberry leaves in Ottawa County; noted in Defiance and Franklin Counties. (Kroetz et al.).

SOFT SCALES - MARYLAND - Lecanium sp., probably L. nigrofasciatum (terrapin scale), on bark and Pulvinaria sp. on leaves, very heavy on silver maple at University Park, Prince Georges County. Leaves covered with sooty mold. Lady beetle larvae on same tree. (U. Md., Ent. Dept.). INDIANA - Neolecanium cornuparvum (magnolia scale) crawlers appearing in Marion and other central counties. (Clark). MISSOURI - Toumeyella liriodendri (tuliptree scale) crawlers present in Cape Girardeau County on yellow-poplars. (Thomas, Arnhart). OKLAHOMA - L. corni (European fruit lecanium) heavy on elms in Stillwater area, Payne County. (Okla. Coop. Sur.).

BEECH SCALE (Cryptococcus fagi) - RHODE ISLAND - Very heavy on several trees in public park in Providence, Providence County. (Mathewson).

OAK KERMES SCALES (Kermes spp.) - OHIO - Present on some oaks in Tuscarawas and Portage Counties. (Ellis, Kelly).

SYCAMORE LACE BUG (Corythucha ciliata) - ALABAMA - Partially defoliated numerous sycamores throughout Talladega, Calhoun, Etowah and other northern counties. (Bass et al.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Moderate to heavy in northeast and north central areas; moderate in west central, central and south central areas; light in Beaver County. Third generation pupating in Payne County. (Okla. Coop. Sur.). KANSAS - Infestations continue on elms over eastern two-thirds of State. (Ins. Sur. Rpt., Aug. 19). UTAH - Almost destroyed foliage on elm at Toquerville, Washington County. (Knowlton).

LARGER ELM LEAF BEETLE (Monocesta coryli) - NORTH CAROLINA - Nearly defoliated 4 elms on farm in Lee County. (Price, Scott).

COTTONWOOD LEAF BEETLES (Chrysomela scripta complex) - CALIFORNIA - Larvae medium on willows in Alturas, Modoc County. (Cal. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - OHIO - Webs common in several counties in east central area on wild cherry, birch, and other deciduous trees. Probably active statewide. (Treece, Rose). WISCONSIN - Webs scarce in extreme southwestern Grant County where common in 1964. Prevalent in northern part of county. (Wis. Ins. Sur.). NEW MEXICO - Webbing increasing on cottonwood trees in all areas of State. (N.M. Coop. Rpt.). DELAWARE - Conspicuous on roadside trees in Sussex County. (MacCreary, Woodall).

GYPSY MOTH (Porthetria dispar) - MICHIGAN - All trapping continues negative. (Hays). CALIFORNIA - Cooperative trapping program underway; 279 traps operated in parks. Detection programs in 1961, 1963 and to date negative. (Cal. Coop. Rpt.).

A ROYAL MOTH (Anisota sp.) - MINNESOTA - Early and middle instars present in oak stands defoliated in previous years in Smoky Hills State Forest area. (Minn. Ins. Rpt.).

MOURNING-CLOAK BUTTERFLY (Nymphalis antiopa) - CALIFORNIA - Larvae heavy and defoliating willows in Davis Creek area, Modoc County. (Cal. Coop. Rpt.).

A LEAF-EATING GRASSHOPPER (Dendrotettix quercus) - WISCONSIN - Many nymphs matured in northeast; high percent of dead specimens in area. Defoliation not unusually high although localized infestation in Jackson County with heavily defoliated oaks. (Wis. Ins. Sur.).

WALKINGSTICK (Diapheromera femorata) - WISCONSIN - About 95 percent of nymphs matured in Marinette County; few third instars still present. Mating but no egg laying noted. (Wis. Ins. Sur.).

A SPIDER MITE (Oligonychus viridis) - DELAWARE - Collected on hickory in Sussex County. This is a new State record. Det. by J. Mellott. (MacCreary, Woodall).

AN ERIOPHYID MITE (Vasates aceriscrumena) - OHIO - Produced galls on numerous maple leaves in forested area in Harrison County. Det. by J. Walker. (Rose).

Coccids in Florida - Ischnaspis longirostris (black thread scale) adults severe and damaging leaves of butchers-broom (Ruscus aculeatus) at Perrine, Dade County. (Herrman, Aug. 4). All stages of Pseudococcus citri (citrus mealybug) lightly damaged leaves of Aphelandra squarrosa at Raiford, Union County. (Collins, July 21). These 2 are new host records for Florida Division of Plant Industry. (Fla. Coop. Sur.). Aspidiotus destructor (coconut scale) general and caused severe damage to stem and leaves of Chrysalidocarpus lutescens in nursery at Ocoee, Orange County. (Griffith, Kipp, July 22). A. cyanophylli general and severely damaged leaves of saw cabbage palm in nursery at Winter Haven, Polk County. (Meyer, Aug. 11). Coccus viridis (green scale) localized and severely damaging stem and leaves of Ixora coccinea in garden shop at Tampa, Hillsborough County. (Hale) Fiorinia theae (tea scale) general and moderately damaging leaves of Camellia sasanqua at Winter Haven (Denmark); severely damaged leaves of Burford holly in garden shop at Tampa (Hale).

CRAPEMYRTLE APHID (Myzocallis kahawaluokalani) - MARYLAND - Heavy and caused considerable sooty mold on tree in Annapolis, Anne Arundel County. (U. Md., Ent. Dept.). CALIFORNIA - Heavy on crapemyrtle nursery stock in Elverta, Sutter County. (Cal. Coop. Rpt.).

SPIREA APHID (Aphis spiraecola) - FLORIDA - Adults localized and severely damaging leaves of gardenia in garden shop at Tampa, Hillsborough County; adults and nymphs moderately damaging stem and leaves of cotoneaster in nursery at Glen St. Mary, Baker County. (Hale, Collins).

LACE BUGS - NEW YORK - Still present on andromeda in Suffolk County. (N.Y. Wlky. Rpt., Aug. 16). NEW JERSEY - Severely damaged azaleas and pieris in Morris County. (Ins.-Dis. Newsltr.).

A STINK BUG (Cosmopepla bimaculata) - VIRGINIA - Adults medium and feeding on and near buds of snapdragons in garden in Amherst County. (Isakson, Wilkens).

VIRGINA-CREEPER LEAFHOPPER (Erythroneura ziczac) - UTAH - Discoloring foliage of Virginia-creeper and variety of grape at Filmore, Millard County. (Knowlton).

HOLLYHOCK WEEVIL (Apion longirostre) - UTAH - Collected at Fillmore, Millard County. This is a new county record. (Knowlton).

FULLER ROSE BEETLE (Pantomorus godmani) - CALIFORNIA - Heavy and damaging eucalyptus nursery stock in Elverta, Sutter County. (Cal. Coop. Rpt.).

A JAPANESE WEEVIL (Pseudocneorhinus bifasciatus) - VIRGINIA - Adults severe on azaleas at location in Portsmouth. (Isakson).

A LEAF ROLLER MOTH (Platynota stultana) - CALIFORNIA - Larvae and pupae medium on gladious plants in Fresno, Fresno County. (Cal. Coop. Rpt.).

LILAC BORER (Podosesia syringae syringae) - NORTH DAKOTA - Moderate recurring infestation noted on lilac near Berea. (Thomasson).

AZALEA LEAF MINER (Gracilaria azaleella) - NORTH CAROLINA - Infested azalea in Caldwell County. (Andrews, Robertson).

A LEAFCUTTING BEE - UTAH - Conspicuously cut rose and lilac leaves at Fillmore, Millard County, and Toquerville, Washington County. (Knowlton).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - WYOMING - Large number of adults of several species continue annoying to man and animals in Washakie County. (Marks). UTAH - Troublesome in Manti-West Ephraim-Moroni fields of Sanpete County. (Knowlton, Purnell). Troublesome in Junction-Circleville area of Piute County. (Knowlton). Very troublesome along Wasatch Front from north of Fielding, Box Elder County, to Santaquin, Utah County, and Nephi, Juab County. Unusually frequent rains caused control difficulty in organized mosquito control districts. Culex tarsalis unusually numerous in Weber County. (Knowlton, Fronk). Troublesome about some homes in Salt Lake City and in Cache County communities and farm areas. Troublesome on rangelands east of Jensen, Uintah County. (Knowlton). Very troublesome in Helper-Price-Wellington farm areas of Carbon County. (Horn, Knowlton). Very troublesome at Castle Gate-Huntington-Ferron areas of Emery County. (Olson, Knowlton). ARIZONA - Several species heavy and becoming problem to homeowners in Yuma and Pinal Counties and areas of Coconino County. (Ariz. Coop. Sur.). NEW MEXICO - Very abundant after rains in Albuquerque, Bernalillo County, and Belen, Valencia County. (Heninger). OKLAHOMA - Several species heavy in Choctaw County. Numerous Aedes atropalpus and few Anopheles punctipennis larvae taken in rock holes in Johnston County. (Okla. Coop. Sur.). KANSAS - Aedes vexans remains predominant species in trap collections. Culex pipiens moderate and C. tarsalis remains light, only 2 per night per trap; however, 30 C. tarsalis larvae taken from livestock watering tanks. Possibility of larger C. tarsalis population than light traps indicate. (Ins. Sur. Rpt., Aug. 19). ILLINOIS - Troublesome in many areas. (Ins. Sur. Bull.). WISCONSIN - Populations increasing in scattered areas. Aedes vexans troublesome near Wisconsin River. Recent rains indicate buildup of A. vexans and Culex pipiens pipiens (northern house mosquito). (Wis. Ins. Sur.).

MINNESOTA - Collections from 16 light traps in Metropolitan Mosquito Control District week ending August 14 totaled 12,405 females; 10,506 Aedes vexans, 438 Culex tarsalis, 288 Anopheles walkeri, 126 Culiseta inornata, 126 C. minnesotae and 144 Mansonia perturbans. Population peak past for M. perturbans and Culex tarsalis. Aedes vexans found in 544 of 1,658 larval collections, Culex tarsalis in 401 and C. territans in 459. Total of 362 females taken in 34 15-minute evening bite collections; 295 A. vexans, 26 A. cinereus, 7 C. salinarius and 6 C. tarsalis. In 313 5-minute daytime bite collections, 1,824 A. vexans, 183 A. trivittatus, 101 A. cinereus, 77 A. excrucians, 77 A. stimulans and 52 A. triseriatus taken. Adult populations expected to decline significantly during coming weeks. (Minn. Ins. Rpt.). MICHIGAN - Blacklight catches low

previous week; rains created situation for buildup of Culex pipiens pipiens (northern house mosquito). (Newman). ALABAMA - Extremely heavy on Dauphin Island area, Mobile County. (Seibels). VERMONT - Annoying in all areas. (MacCollom, Aug. 16).

FACE FLY (Musca autumnalis) - WASHINGTON - Two males taken August 11 and 12 in Malaise trap near Pullman, Whitman County for second and third records for State. (James). See CEIR 15(32): 910 for first report in State. (PPC). IDAHO - Three specimens collected from dairy cattle at Moscow, Latah County; 1 specimen collected August 16 and 2 on August 17. This is a new State record. (Brusven, Manis). SOUTH DAKOTA - Numbers decreased in Charles Mix County; ranged 75-100 per side on untreated Black Angus stock. (Kantack). ILLINOIS - Increased on pastured cattle in northern half of State; continued buildup expected for next 3-4 weeks. (Ins. Sur. Bull.). INDIANA - Increasing in central area; averages of 6-7 and range of 2-25 noted. (Sanders). OHIO - Populations apparently slightly higher with very warm weather. Approximately 30 per face on young Hereford beef cattle in Harrison County; averaged 20 (ranged 6-40) per face on animals at Wooster, Wayne County. (Miller, Rose). MARYLAND - Light on cattle in Frederick County; highest count 13 per head. (U. Md., Ent. Dept.). VERMONT - Populations continue to average 20-40 per animal on sunny days. (MacCollom, Aug. 16).

HOUSE FLY (Musca domestica) - ALABAMA - Noted in and around 10 dairy barns in Calhoun and Etowah Counties; ranged medium to heavy, mostly heavy, and in proportion to control efforts. Larvae extremely heavy in manure and damp areas around barns and holding pens. (Bass et al.). VERMONT - Populations high and extremely annoying. (MacCollom, Aug. 16). OKLAHOMA - Increased considerably in favored areas in Payne County; heavy in Choctaw County. (Okla. Coop. Sur.). UTAH - Continues troublesome about communities and farms in Washington County, (Huber, Knowlton) and in southern Kane County through Sanpete County. (Knowlton). Numerous on farms at Bridgeland, Duchesne County. (Knowlton).

BLACK HORSE FLY (Tabanus atratus) - OKLAHOMA - This species and Tabanus spp. numerous in Creek County; heavy on cattle in Cotton County and moderate in Murray County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Ranged 700-1,000 per head on cattle in Payne County; averaged 400 per head in Cotton County. Heavy in Murray and McCurtain Counties; moderate in Mayes County. (Okla. Coop. Sur.). UTAH - Moderately numerous throughout Sanpete and Washington Counties. (Knowlton). SOUTH DAKOTA - Numbers decreased in Charles Mix County; untreated Black Angus stock with 75-100 adults per side. (Kantack). MARYLAND - Moderate; up to 75 per head in Frederick County. (U. Md., Ent. Dept.). ALABAMA - Ranged 200-500 adults on untreated beef and dairy animals; extremely light on well-treated animals in Etowah and Calhoun Counties. (Bass et al.).

STABLE FLY (Stomoxys calcitrans) - MARYLAND - Light on cattle in Frederick County; up to 11 per head. (U. Md., Ent. Dept.). OKLAHOMA - Averaged 11 per head in Payne County; moderate in Choctaw County. (Okla. Coop. Sur.).

HORSE BOT FLY (Gasterophilus intestinalis) - UTAH - Annoying horses at Hurricane, Washington County. (Knowlton).

EYE GNATS - NEW MEXICO - Very annoying to humans in Virden Valley, Hildalgo County. (N.M. Coop. Rpt.). ALABAMA - Large swarms around all dairy barns in Calhoun and Etowah Counties. (Bass et al.).

CATTLE LICE - UTAH - Continue troublesome to some cattle in Emery County. (Olson, Knowlton).

TICKS - OKLAHOMA - Ambylomma americanum (lone star tick) adults average less than 1 per head in southeastern areas. Nymphs ranged 10-15 per head and larvae extremely

numerous; some larvae may be Dermacentor albipictus (winter tick). Rhipicephalus sanguineus (brown dog tick) infested several homes in Payne County. (Okla. Coop. Sur.). RHODE ISLAND - R. sanguineus infested home in Warwick, Kent County. (Hannah).

FLEAS - ILLINOIS - Problem for returning vacationers. (Ins. Sur. Bull.). MARYLAND - Infesting homes in Prince Georges County. (U. Md., Ent. Dept.). NORTH CAROLINA - Larvae of Ctenocephalides sp. heavy in bed in Wake County home. (Wray, Aug. 9).

SADDLEBACK CATERPILLAR (Sibine stimulea) - ALABAMA - Last instars appearing on ornamental shrubs throughout State; particularly noted in Monroe and Lee Counties. "Stung" child in Monroe County. (Welch et al.).

WASPS - MINNESOTA - Annoying to numerous homeowners. (Minn. Ins. Rpt.). RHODE ISLAND - Usual seasonal complaints concerning vespid wasps statewide. (Mathewson, King, Hannah). SOUTH CAROLINA - Hornets causing much concern in Greenville County. (Nettles et al.).

HOUSEHOLD AND STRUCTURAL INSECTS

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - NEW YORK - Entering homes in Suffolk County. (N.Y. Wkly. Rpt., Aug. 16). VIRGINIA - Entered home in Staunton, Augusta County. (Isakson, Morse). WISCONSIN - Continues annoying in homes and motels. (Wis. Ins. Sur.). UTAH - Adults found in home south of Ogden, Weber County. (Knowlton).

ELM LEAF BEETLE (Galerucella xanthomelaena) - MARYLAND - Household pest in Frederick County. (U. Md., Ent. Dept.). NEW JERSEY - Beginning to migrate into homes. (Ins.-Dis. Newsltr.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - VIRGINIA - Medium infestation noted in home at Claudville, Patrick County. (Isakson, Olinger).

DRUGSTORE BEETLE (Stegobium paniceum) - OREGON - Infested home in South Salem, Marion County. (Larson).

CIGARETTE BEETLE (Lasioderma serricorne) - NORTH CAROLINA - Infesting food in home in Wake County. Large numbers found in home bathroom in Martin County. (Mount, Wray).

HONEY BEE (Apis mellifera) - NEBRASKA - Swarm caused severe disturbance in home in Lincoln, Lancaster County. (Rhine).

CRICKETS - NEW JERSEY - Migrating into homes. (Ins.-Dis. Newsltr.). MARYLAND - Reported indoors in Anne Arundel County. (U. Md., Ent. Dept.). WISCONSIN - Probably Acheta domesticus (house cricket) entering houses in parts of Dane, Walworth, Dunn and Juneau Counties. Field crickets abundant in many corn fields in southwestern section. (Wis. Ins. Sur.). ARIZONA - Summer rains caused increases in populations of Gryllus spp. (field crickets) that have become problems in homes and business establishments in Pinal, Maricopa and Coconino Counties. (Ariz. Coop. Sur.).

BOXELDER BUG (Leptocoris trivittatus) - UTAH - Numerous about some communities in Emery County, including Castle Dale. (Olson, Knowlton). NEW JERSEY - Migrating into homes. (Ins.-Dis. Newsltr.).

EARWIGS - VERMONT - Troublesome around homes in Barre, Montpelier and Burlington areas. (MacCollom, Aug. 16). UTAH - Forficula auricularia (European earwig) especially numerous and troublesome about homes and on several farms in Sanpete County. (Purnell, Knowlton).

CLOVER MITE (Bryobia praetiosa) - WISCONSIN - Causing concern to homeowners in Brown, Calumet and Green Lake Counties. (Wis. Ins. Sur.). NORTH CAROLINA - Heavy in 2 homes in Lincoln County. (Wray, Aug. 9).

MIDGES - OREGON - Large numbers of adults of several species annoying in homes on Oswego Lake, Clackamas County, and in paper mills on Columbia River, Columbia County. (Larson).

MILLIPEDS - MICHIGAN - Annoying homeowners in low area near Temperance, Monroe County. (Janes). MARYLAND - Bothering homeowners in Montgomery and Prince Georges Counties. (U. Md., Ent. Dept.). NEW JERSEY - Migrating into homes. (Ins.-Dis. Newsltr.).

TERMITES - MINNESOTA - Infestation found at Windom. (Minn. Ins. Rpt.). NEBRASKA - Reticulitermes spp. reported infesting several buildings in Lincoln, Lancaster County. (Rhine).

BENEFICIAL INSECTS

BIG-EYED BUGS - WASHINGTON - Averaged 15.6 in Walla Walla area, Walla Walla County, and 7 in upper Columbia Basin area per 100 sweeps on alfalfa. (Halfhill, Aug. 13). WYOMING - Geocoris spp. ranged 60-100 per 100 sweeps in alfalfa in Washakie County. (Marks). ARKANSAS - Geocoris punctipes, G. uliginosus, and Nabis spp. continued most important predators in soybean fields in areas surveyed. Big-eyed bugs averaged 3 adults and 10.7 nymphs on 30 row feet compared with 2.1 and 5.6 last week, respectively. Nabis spp. averaged 8.1 compared with 6.8 previous week. All species more numerous in 3 counties in east central area than in Jefferson County. (Ark. Ins. Sur.).

DAMSEL BUGS - WASHINGTON - Counts per 100 sweeps on alfalfa averaged 9.5 in Walla Walla area, Walla Walla County, and 12 in upper Columbia Basin area. (Halfhill, Aug. 13). WYOMING - Nabis spp. adults and nymphs numerous in alfalfa in Washakie County. (Marks).

ANTHOCORID BUGS - WASHINGTON - Average 77 per 100 sweeps in alfalfa in Walla Walla area, Walla Walla County, and 16 in upper Columbia Basin area. (Halfhill, Aug. 13).

LADY BEETLES - WASHINGTON - Averaged 9 per 100 sweeps on alfalfa in upper Columbia Basin area. (Halfhill, Aug. 13). IDAHO - Several species ranged up to 10 adults per sweep in Grangeville rape plantings. (Cook, Portman, Studer). WYOMING - Large number of adults and larvae of several species on alfalfa, beans, corn and sugar beets in Washakie County. (Marks).

A PUNCTURE-VINE SEED WEEVIL (Microlarinus lareynii) - CALIFORNIA - Larvae and adults, probably this species, heavy in and on puncture-vine plants in Perris, Riverside County. (Cal. Coop. Rpt.).

GREEN LACEWINGS - WASHINGTON - Averaged 17.6 in Walla Walla area, Walla Walla County, and 11 in upper Columbia Basin area per 100 sweeps on alfalfa. (Halfhill, Aug. 13). OKLAHOMA - Chrysopa spp. most common predators noted in cotton in south central section; all stages present. (Okla. Coop. Sur.).

A NEMESTRINID FLY (Neorhynchocephalus sackenii) - OREGON - Parasitized 67-75 percent of Melanoplus sanguinipes (migratory grasshopper) specimens along Hinton Creek 9-14 miles east of Heppner in Morrow County. Expected to increase for another 2 weeks. (Prescott).

A SARCOPHAGID FLY (Sarcophaga aculeata) - OREGON - Very abundant in area with Melanoplus sanguinipes (migratory grasshopper) along Hinton Creek in Morrow County. (Prescott).

SYRPHID FLIES - WASHINGTON - Averaged 2 per 100 sweeps on alfalfa in upper Columbia Basin area. (Halfhill, Aug. 13).

CHINESE MANTIS (Tenodera aridifolia sinensis) - NORTH CAROLINA - Collected in several locations in Wake County. (Wray, Aug. 9).

Beneficial Insects in Cotton - LOUISIANA - Populations still very low; exerting little control of bollworms and aphids. (Tynes, Aug. 16). CALIFORNIA - Predators abundant in most cotton in Fresno County. Collops spp. (melyrid beetles) found in large numbers on west side of county. (Stromberg, Aug. 11).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - MICHIGAN - Single adult found in Saginaw County July 8; this is a new county record. (PPC Cent. Reg., July Rpt.). Very light samplings taken in traps in Monroe, Lenawee, Berrien and Calhoun Counties. Light catch in Battle Creek area, 14 adults in 13 traps. No adults taken in 50 traps maintained at Willow Run Airport, Wayne County. (Hays). ARKANSAS - Trapping in several locations negative. (Ark. Ins. Sur.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - ARKANSAS - Additional infestations found in Marion and Vincent, Crittenden County. Extension of infestation found in Earle area of county. (Ark. Ins. Sur.).

A LEAF BEETLE (Galeruca rudis) - OREGON - Abundant in Bandon area, Coos County; apparently feeding on lupine. (Larson).

LESSER MEALWORM (Alphitobius diaperinus) - MARYLAND - Adults and larvae numerous in empty broiler houses in Talbot and Caroline Counties. Present in feed and occasionally in litter. (U. Md., Ent. Dept.)

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - OHIO - Large number of adults noted on side of barn at Bellefontaine, Logan County. (Hufford, Blair).

CORRECTIONS

CEIR 15(11): 194 - Second paragraph, line 10, should read: "In TEXAS, three-cornered alfalfa hopper . . ."

CEIR 15 (25): 641 - PECAN LEAF CASEBEARER (Acrobasis cunea) should read A PHYCITID MOTH (Acrobasis cunea).

CEIR 15 (34): 959 - CORN LEAF APHID (Rhapalosiphum maidis) should read Rhopalosiphum maidis.

ADDITIONAL NOTES

KANSAS - SPOTTED ALFALFA APHID (Therioaphis maculata) remained light in southwest; averaged 300 per 100 sweeps in Rice, Stafford and Pawnee Counties. (Simpson). TWO-SPOTTED SPIDER MITE (Tetranychus telarius) and BANKS GRASS MITE (Oligonychus pratensis) damaging late corn in southwest district; controls applied. CORN EARWORM (Heliothis zea) common field corn in southwest, although not at economic levels. (DePew). Some breaking of stalks reported in Hays, Ellis County, as result of infestation by this pest; may also be associated with hail damage and subsequent rotting. (Knutson, Pitts.) ELM LEAF BEETLE (Galerucella xanthomelaena) noted as heavy on Chinese elms in Marysville, Marshall County. NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) noted as severe on pines in Hays Branch Experiment Station in central area; pupation about complete

August 17. (Harvey). MOSQUITO larvae in limited number of seepage pools from drainage ditches in Ellis County predominatly Culex tarsalis, with some C. restuans and C. salinarius present. (Knutson, Pitts).

COLORADO - SPOTTED ALFALFA APHID populations continue heavy in alfalfa in Prowers, Bent, Otero and Crowley Counties; ranged 500-2,500 per 100 sweeps. Populations high in eastern Prowers County with damage to alfalfa noted. Light populations (0-20 per 100 sweeps) appearing in Pueblo County. Trace numbers noted in all areas in western section of State. PEA APHID (Acyrthosiphon pisum) ranged 0-400 per 100 sweeps in these counties. Populations low, 100-300 per 100 sweeps, in alfalfa in western area. LYGUS BUGS (Lygus spp.) abundant in all alfalfa in western area; ranged 100-400 per 100 sweeps. (Schweissing, Bulla). TWO-SPOTTED SPIDER MITE very light on corn in Arkansas Valley; found in few fields throughout area. CORN LEAF APHID (Rhopalosiphum maidis) infesting new tassels in many fields, but damage slight. FALL ARMYWORM (Spodoptera frugiperda) severely damaging corn tassels in Prowers County; over 90 percent of tassels infested in some fields with as many as 6 larvae per tassel. Larvae widespread throughout Arkansas Valley on tips of corn ears with infestation varying 20-90 percent. (Schweissing). WESTERN CORN ROOTWORM (Diabrotica virgifera) adults feeding on tassels and ears of corn in area northeast of Greeley, Weld County. (Urano). Considerable feeding by D. virgifera adults noted on leaves of corn in Logan County, with severe lodging of plants observed in one field. (Hantsbarger). CORN EARWORM populations high in all corn in Mesa, Delta, Montrose and Garfield Counties; larvae ranged 1-3 per ear on 80-90 percent of ears. (Bulla). TWO-SPOTTED SPIDER MITE present in few pear orchards in Mesa County. EUROPEAN RED MITE (Panonychus ulmi) apparently established on decidious fruits over most of Delta County. (Bulla). MEXICAN BEAN BEETLE (Epilachna varivestis) remains sufficiently high on beans in Weld County to warrant control. High numbers of POTATO LEAFHOPPER (Empoasca fabae) and SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) present on potatoes in Weld County fields where controls used; ranged 25-30 per 100 sweeps. (Urano). POTATO PSYLLID (Paratrioza cockerelli) populations low in San Luis Valley; adults range 0-1 per 100 sweeps and nymphs 0-2 per 100 leaves. (Jenkins). Adults ranged 0-4 per 100 sweeps on tomatoes in Arkansas Valley. (Schweissing). POTATO APHID (Macrosiphum euphorbiae) increasing on potatoes in San Luis Valley; ranged 0-1 per leaf and 10-20 per 100 sweeps. CABBAGE LOOPER (Trichoplusia ni), unspecified loopers and a CUTWORM present at economic levels in some fields. (Jenkins). ONION THRIPS (Thrips tabaci) noted on onions in Weld County and in Arkansas Valley. (Urano, Schweissing). CABBAGE LOOPER and unspecified loopers ranged 0-5 per head in lettuce and cabbage in Arkansas Valley; perhaps 2 generations present. (Jenkins). Small numbers (1 per 40 sweeps) of BEET LEAFHOPPER (Circulifer tenellus) continue present on sugar beets in various areas of Arkansas Valley. (Schweissing). ELM LEAF BEETLE causing considerable defoliation of American elms in Pueblo County area. (Hantsbarger). Larvae of CECROPIA MOTH (Hyalophora cecropia) damaging lilac leaves in southeast Denver area. (Wilhelm). Large increase in numbers of several genera of LEAFHOPPERS noted at porch lights in Fort Collins area of Larimer County. (Thatcher).

MASSACHUSETTS - CRANBERRY FRUITWORM (Acrobasis vaccinii) continues to cause concern in southeastern area because of late flight activity and young larvae in berries. BLUEBERRY MAGGOT (Rhagoletis mendax) adults still active in same area; more numerous than for several seasons. (Tomlinson).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL - blacklight; I - incandescent; MV - mercury vapor; O - other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Feralia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laphygma comstockii (fall armyworm)	Laphygma frugiperda (grass armyworm)	Laphygma exigua (beet armyworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Podagrica quinquemaculata (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARKANSAS																								
Morrilton 8/5-18				38						0	74					1				29				
Kelso 8/12-18				0						5	12					0				0				
Fayetteville 8/12-18				6						8	45					1				0				
ILLINOIS (County)																								
Champaign 8/13-19	59-89	0.22		97							37				19	32	234		14	78		83		
INDIANA (County)																								
Posey 8/7-13				26		14					80				476	2		16	12	19				
Vanderburgh 8/7-13				31		4					19				42	2		0	6	35				
Harrison 8/13				10		9					6				28	4		15	12	7				
Dubois 8/7-13				29		14					7				31	5		7	13	59				
Sullivan 8/7-13				17		7					7				23	0		7	1	7				
Greene 8/7-13				9		5					0				14	0		11	1	11				
Jackson 8/7-13				23		3					9				4	4		10	29	26				
Switzerland 8/7-13				11		5					0				8	3		8	3	13				
Franklin 8/7-13				16		7					0				26	5		11	9	7				
Parke 8/7-13				18		15					1				0	2		4	16	7				
Shelby 8/7-13				9		7					1				14	5		3	5	31				
Hamilton 8/7-13				8		4					8				19	6		4	7	8				
Tippecanoe 8/7-13				41		3					14				58	2		1	1	13				
Wells 8/7-13				2		2					0				24	3		2	1	15				
Jasper 8/7-13				1		1					0				63	0		2	2	5				
Allen 8/7-13				1		1					0				6	0		0	0	9				
Lake 8/7-13				6		2					0				38	1		0	0	27				
St. Joseph 8/7-13				2		2					0				363	1		1	0	7				
Lagrange 8/7-13				15		1					3				105	4		4	2	13				
MARYLAND																		spp.						
Centreville 8/10-17				35							135				180	5		24		17		29		
Snow Hill 8/10-16				34							149				194	85		57		99		46	117	
MASSACHUSETTS																								
East Wareham 8/14, 20			BL								3							1						
MICHIGAN (Counties)																								
Berrien 8/10-16			BL	3											26	2	3			2				
Monroe 8/10-16			BL	8											37	7	2			12				
Wayne 8/10-16			BL	5											48	3	1			7				
Branch 8/10-16			BL	5											39	3	2			1				
Kalamazoo 8/10-16			BL	0											20	1	1			2				
Jackson 8/10-16			2BL	9											61	5	2			6				
Livingston 8/10-16			BL	11											56	9	0			9				
Ionia 8/10-16			BL	6											31	3	0			7				
Saginaw 8/10-16			BL	8											28	2	0			4				
Sanilac 8/10-16			BL	4											37	7	0			6				
Bay 8/10-16			BL	9											28	3	0			7				
Ogemaw 8/10-16			BL	7											0	2	0			3				
Newaygo 8/10-16			BL	7											32	4	0			12				
Chippewa 8/10-16			BL	9											0	4	0			37				
Menominee 8/10-16			BL	4											0	4	1			9				
Iron 8/10-16			BL	5											0	2	0			6				

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	Agrotis ipsilon (black cutworm)	Caripeta piniata (pine looper)	Chorizagrotis auxiliaris (army cutworm)	Euxoa scotogramma (dark sod cutworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Lonchoptera dimidiata (fruit fly)	Lonchoptera lutifrons (fruit fly)	Lonchoptera scutellata (fruit fly)	Contarinia sorghicola (sorghum midge)	Dichelonyx backi (June beetle)	Diplotaxis ruficrus (June beetle)	Euphoria inda (June beetle)	Lachnosterna fusca (June beetle)	Phyllophaga crinita (June beetle)	Phyllophaga latipes (June beetle)	Phyllophaga lanceolata (June beetle)	Crops
MINNESOTA																						
Crookston 8/7-13				2				0						2	7				4			
Fergus Falls 8/7-13				1				4						18	13				0			
Rochester 8/7-13				2				0						0	16				0			
Shakopee 8/7-13				2				0						5	0				0			
Worthington 8/7-13				1				0						22	1				1			
MISSISSIPPI																						
Stoneville 8/13-19	67-98	0.13	2BL	27		12		71	4	519					1	132	1	5	22	48	150	818
Tunica 8/13-19	67-98		BL	17		8		121	3	453					13	52	1	33	8	24	29	160
Rolling Fork 8/13-19	69-96	0.17	BL	11		11		55	36	528					4	92		11	16	32	32	1300
MISSOURI																						
Portageville 8/14-20			BL	6						160				4303	2	30			1			
NEW JERSEY																						
Aura 8/16, 20										14				3		10	1	9	48			
Edinburg 8/16, 20										12				49		8	1	1	132			
Masonville 8/16, 20										27				2		2	1	3	231			
Seabrook 8/16, 20										8				6		17	10	11	44			
NORTH DAKOTA																						
Fargo 8/14-20				3									8	2					2			
Pembina 8/14-20													2	5								
Bowman 8/14-20													1						2			
Williston 8/14-20													1									
OHIO (Counties)																						
Licking 8/12-18			BL							20						2						
Wayne 8/12-18			BL	2											1			1				
Franklin 8/13,15,16,18			BL	5			3			25				6	2	22		1	8			
SOUTH CAROLINA																						
Charleston 8/9-15	73-94	0.20	BL	0		0		0	0	60					0	5	0	0	1		28	1
Clemson 8/7-13			BL	2				5		10					4	75			1		7	
SOUTH DAKOTA																						
Brookings 8/12-19			BL	10		15		sp. 363														
TENNESSEE (Counties)														22					11			
Knox 8/10-16				15						48					9	44	3	7	66			
Johnson 8/10-16				16						16						44	5	12	24			
TEXAS																						
Waco 8/14-20				26		11		109	174	763					28	37			14		13	230
WISCONSIN																						
Platteville 8/9-15			BL	3						0				41	7				7			
Darien 8/10-16			BL							2				24					58			
Janesville 8/10-16			BL							0				19					42			
Evansville 8/10-16			BL							1				23					64			
Mazomanie 8/11-17			BL	0						1				156	0				0			
Madison 8/11-17	53-93		BL	16	31					0				68	10				5			
Middleton 8/11-17			BL	5	43					0				113	12				1			

LIGHT TRAP COLLECTIONS

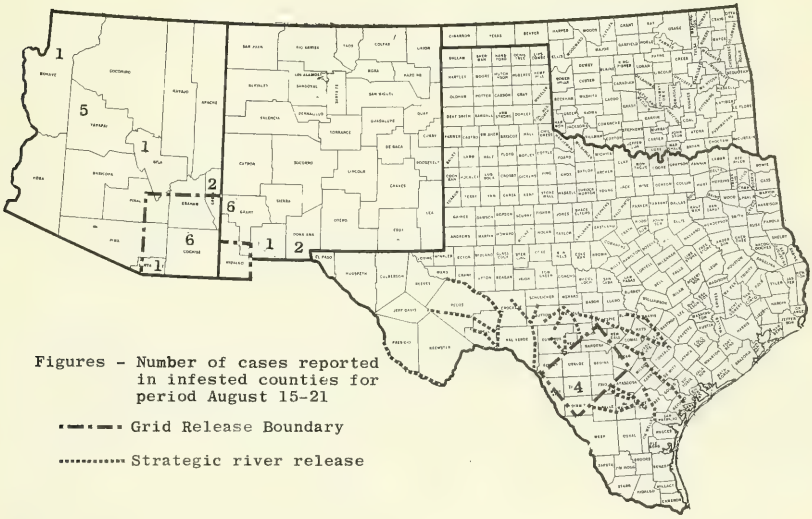
	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
WISCONSIN (Continued)																								
De Forest 8/10-16			BL	1							0				78	27				5				
Arlington 8/3-9			BL								0				6									
Arlington 8/10-16			2BL								8				438					5				
Columbus 8/10-16			BL								0				71					1				
Theresa 8/10-16			BL								0				2					3				
Wayne 8/10-16			BL								0				0					7				
Nenno 8/10-16			BL								0				0					1				
Eden 8/10-16			BL								0				0					8				
Oakfield 8/10-16			BL								0				14					20				
Beaver Dam 8/10-16			BL								4				319					8				
Clyman 8/10-16			BL	1							2				3					5				
Hancock 8/11-13			BL	1							0				2	1				0				
Cedar Grove 8/10-16			BL	3							1				15	0				27				
Waldo 8/10-16			BL								0				1					29				

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period August 15 - 21, a total of 29 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Zavala 4; NEW MEXICO - Dona Ana 2, Grant 6, Luna 1; ARIZONA - Yavapai 5, Greenlee 2, Cochise 6, Gila 1, Mohave 1, Santa Cruz 1. The Republic of Mexico reported 231 cases: Sonora 39, Chihuahua 25, Coahuila 24, Nuevo Leon 1, Tamaulipas 1, Territory of Baja California Sur 29, Durango 50, Sinaloa 53, Veracruz 6, San Luis Potosi 3. Sterile screw-worm flies released: Texas 15,086,250, New Mexico 2,280,000, Arizona 10,524,000, the Republic of Mexico 66,072,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	58	2,447	81	4,637	71.60	52.77
1964	0	105	52	4,265	0.00	2.46
1965	29	575	71	3,649	40.84	15.75
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	67	1,447	34	1,338	197.05	108.14
1965	150	3,027	108	1,641	138.88	184.46
Table 2A. Mexican portion of Barrier Zone only.						
1964	61	1,349	15	591	406.66	228.25
1965	119	2,636	37	878	321.62	300.22

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Wisconsin (State or District) DURING 1964 (Year)

ATTACKING Lima beans (Commodity or Crop)

A. Pest or pest complex: Potato leafhopper

B. Number of acres [a] produced (From CRS)	No.	4,200
C. Average yield per acre [a] (From CRS)	Units/	1,800 lb.
D. Price[b] per unit (lb.)[c] (From CRS)	$/	.059
E. Acres [a] needing control	No.	4,000
F. Acres [a] treated	No.	3,881
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	30
I. Loss in yield, units per acre [a], C x H	Units/	540 lb.
J. Loss in yield, $ per acre [a], D x I	$/	32
K. Loss in quality, $ per ---- [a]	$/	----
L. Yield loss for all acres [a], (E-F) x I	Units	64,260 lb.
M. Control cost, $ per acre [a],	$/	3.00
N. Control cost for all acres [a], F x M	$	11,643
O. Yield loss for all acres [a], (E-F) x J	$	3,808
P. Quality loss for all ---- [a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	15,451

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

ATTACKING Snap beans (Commodity or Crop)

A. Pest or pest complex: Potato leafhopper

B. Number of acres [a] produced (From CRS)	No.	35,700
C. Average yield per acre [a] (From CRS)	Units/	1.7 tons
D. Price[b] per unit (ton)[c] (From CRS)	$/	74.59
E. Acres [a] needing control	No.	19,000
F. Acres [a] treated	No.	18,313
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	30
I. Loss in yield, units per acre [a], C x H	Units/	.51 ton
J. Loss in yield, $ per acre [a], D x I	$/	38
K. Loss in quality, $ per ---- [a]	$/	----
L. Yield loss for all acres [a], (E-F) x I	Units	350 tons
M. Control cost, $ per acre [a],	$/	3.00
N. Control cost for all acres [a], F x M	$	54,939
O. Yield loss for all acres [a], (E-F) x J	$	26,106
P. Quality loss for all ---- [a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	81,045

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Wisconsin (State or District) DURING 1964 (Year)

ATTACKING Potatoes (Commodity or Crop)

A. Pest or pest complex: Potato leafhopper, black cutworm

B.	Number of acres[a] produced (From CRS)	No.	58,000
C.	Average yield per acre[a] (From CRS)	Units/	184 cwt.
D.	Price[b] per unit (cwt.)[c] (From CRS)	$/	3.54
E.	Acres[a] needing control	No.	58,000
F.	Acres[a] treated	No.	57,000
G.	Reduction due to not treating where needed:		
H.	Loss in yield, percent	%	50
I.	Loss in yield, units per acre[a], C x H	Units/	92 cwt.
J.	Loss in yield, $ per acre[a], D x I	$/	326
K.	Loss in quality, $ per acre[a]	$/	495
L.	Yield loss for all acres[a], (E-F) x I	Units	92,000 cwt.
M.	Control cost, $ per acre[a],	$/	9.00
N.	Control cost for all acres[a], F x M	$	513,000
O.	Yield loss for all acres[a], (E-F) x J	$	326,000
P.	Quality loss for all acres[a], (E-F) x K	$	495,000
Q.	Combined control cost and losses, N + O + P	$	1,334,000

R. Percent loss due to each insect in the complex: Potato leafhopper 90; black cutworm 10.

Comment: Estimate that black cutworm probably reduced grade of about 6,000 acres of potatoes in central irrigated area of the State.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

ATTACKING Onions (Commodity or Crop)

A. Pest or pest complex: Onion maggot

B.	Number of acres[a] produced (From CRS)	No.	2,100
C.	Average yield per acre[a] (From CRS)	Units/	220 cwt.
D.	Price[b] per unit (cwt.)[c] (From CRS)	$/	3.30
E.	Acres[a] needing control	No.	2,100
F.	Acres[a] treated	No.	2,100
G.	Reduction due to not treating where needed:		
H.	Loss in yield, percent	%	50
I.	Loss in yield, units per acre[a], C x H	Units/	110 cwt.
J.	Loss in yield, $ per acre[a], D x I	$/	363
K.	Loss in quality, $ per ----[a]	$/	----
L.	Yield loss for all ----[a], (E-F) x I	Units	----
M.	Control cost, $ per acre[a],	$/	3.00
N.	Control cost for all acres[a], F x M	$	6,300
O.	Yield loss for all ----[a], (E-F) x J	$	----
P.	Quality loss for all ----[a], (E-F) x K	$	----
Q.	Combined control cost and losses, N + O + P	$	6,300

R. Percent loss due to each insect in the complex:

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Wisconsin (State or District) DURING 1964 (Year)

ATTACKING Carrots (Commodity or Crop)

A. Pest or pest complex: Six-spotted leafhopper

B. Number of acres[a] produced (From CRS) No. 2,500

C. Average yield per acre[a] (From CRS) Units/ 340 cwt.

D. Price[b] per unit (cwt.)[c] (From CRS) $/ 1.35

E. Acres[a] needing control No. 2,500

F. Acres[a] treated No. 2,500

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 10

I. Loss in yield, units per acre[a], C x H Units/ 34 cwt.

J. Loss in yield, $ per ----[a], D x I $/ ----

K. Loss in quality, $ per acre[a] $/ 46

L. Yield loss for all ----[a], (E-F) x I Units ----

M. Control cost, $ per acre[a], $/ 4.00

N. Control cost for all acres[a], F x M $ 10,000

O. Yield loss for all ----[a], (E-F) x J $ ----

P. Quality loss for all ----[a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 10,000

R. Percent loss due to each insect in the complex:

Comment: Aster yellows reputedly inhibits flavor and processed product may be lowered in grade but the degree or frequency of such a procedure is not known.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

ATTACKING Cabbage (Commodity or Crop)

A. Pest or pest complex: Cabbage maggot, cabbage looper, imported cabbageworm

B. Number of acres[a] produced (From CRS) No. 6,000

C. Average yield per acre[a] (From CRS) Units/ 14 tons

D. Price[b] per unit (ton)[c] (From CRS) $/ 25.25

E. Acres[a] needing control No. 6,000

F. Acres[a] treated No. 6,000

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 100

I. Loss in yield, units per acre[a], C x H Units/ 14 tons

J. Loss in yield, $ per acre[a], D x I $/ 217

K. Loss in quality, $ per acre[a] $/ 353

L. Yield loss for all ----[a], (E-F) x I Units ----

M. Control cost, $ per acre[a], $/ 23.00

N. Control cost for all acres[a], F x M $ 138,000

O. Yield loss for all ----[a], (E-F) x J $ ----

P. Quality loss for all ----[a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 138,000

R. Percent loss due to each insect in the complex: Cabbage maggot 70; cabbage looper and imported cabbageworm 30.

Comment: Loss of quantity not as important for fresh market cabbages as quality due to grade requirements.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Marlin S. Conrad

Date March 5, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Federal Center Building
Hyattsville, Maryland 20781

Volume 15 September 3, 1965 Number 36

COOPERATIVE ECONOMIC INSECT REPORT

This issue of the Cooperative Economic Insect Report goes to press with the staff all in deep sorrow. Our Chief, Kelvin Dorward, "Pappy" to his many friends, passed away on August 31. We will miss him very much as we know he will be missed by all of you.

HIGHLIGHTS

Adult GRASSHOPPER populations threatening to severe in crops and on rangeland in areas of Minnesota, North Dakota and South Dakota; damage continues in Oklahoma and egg laying general in Utah. RED-LEGGED GRASSHOPPER dominant species in Wisconsin. (p. 1027). CORN EARWORM increasing in importance on corn in some areas and appearing on soybeans in several States; adult numbers high in light traps in New Jersey and Delaware. (pp. 1028, 1029). EUROPEAN CORN BORER adult flight continues heavy in Michigan; peak flight probably passed in Wisconsin; considerable number of larvae noted in field corn in Maryland and larval counts high in Kansas. (p. 1029). NORTHERN CORN ROOTWORM populations generally high on corn in parts of Wisconsin and infestations appear slightly more widespread this season in Michigan. (p. 1030).

PEA APHID showed moderate increase in Ohio alfalfa; counts low in other States. (pp. 1031, 1032). POTATO LEAFHOPPER severely yellowed alfalfa in southern New Hampshire and yellowing noticeable in all areas of Vermont (p. 1032); damaging beans in these 2 States with buildup noted in some late beans in Wisconsin, and heavily damaged late potatoes on Eastern Shore of Virginia (p. 1040). THREE-CORNERED ALFALFA HOPPER increasing and causing moderate to heavy damage to alfalfa in areas of Arizona. (p. 1032). BEAN LEAF BEETLE increased on soybeans in Arkansas with damage to pods observed. GREEN CLOVERWORM appearing on soybeans in several areas, with some heavy infestations reported. (p. 1033)

IMPORTED CABBAGEWORM and DIAMONDBACK MOTH infesting various crucifers on Eastern Shore of Virginia and adult numbers increasing in New Jersey light trap collections. Several other pests also of concern on crucifers and other crops on Virginia's Eastern Shore. (pp. 1038, 1039, 1040). FLEA BEETLES (*Epitrix* spp.) general on tobacco in Adams County, Ohio; damage common in several fields. (p. 1041).

BOLL WEEVIL infestations heavy in several areas; major problem on cotton in Tennessee and numbers high throughout Alabama and in delta area of Mississippi; populations increased in Blacklands and rolling plains areas of Texas. (p. 1041). BOLLWORMS increasing on cotton in several Southern States; egg laying heavy in Shreveport and Saint Joseph areas of Louisiana. (p. 1042).

FALL WEBWORM infestation heaviest in 12 years in Kansas. (p. 1045). ELM LEAF BEETLE continues damaging (p. 1046) and MOSQUITOES still annoying (p. 1048) in several areas.

DETECTION

A BILLBUG (*Sphenophorus venatus vestitus*) reported for first time in Kansas. (p. 1028). New county records include: WESTERN CORN ROOTWORM (*Diabrotica virgifera*) from Clark County, Missouri, and Crawford and Vernon Counties, Wisconsin, (p. 1031); a SPIDER MITE (*Tetranychus mcdanieli*) from Merrimack County, New Hampshire, (p. 1040); LARCH SAWFLY (*Pristiphora erichsonii*) from Yakima County, Washington, (p. 1045); ELM LEAF BEETLE (*Galerucella xanthomelaena*) from Nye County, Nevada, (p. 1046); FACE FLY (*Musca autumnalis*) from Box Elder, Weber and Davis Counties, Utah, (p. 1048) ; COMMON MALARIA MOSQUITO (*Anopheles quadrimaculatus*) from Texas County, Oklahoma. (p. 1048).

CORRECTIONS

See page 1051.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1055).

Estimated Losses and Production Costs Atributed to Insects and Related Arthropods Attacking Alfalfa and Clover-Timothy in Maryland in 1964. (p. 1056).

Reports in this issue are for the week ending August 27 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING AUGUST 30

HIGHLIGHTS: (1) Record cold Northeast as polar air moved to Carolinas. (2) Rainfall mostly light West; light to moderate East. (3) Severe storms central Great Plains.

TEMPERATURE: Polar continental air covered the Northern States during most of the week as the average storm track recrossed the Canadian border. Daily maximums were in the 60's and 70's most of the week from Oregon and Washington to New England. Record low August temperatures occurred at some northeastern locations. From Iowa eastward, one was reminded of mid-October as Sunday afternoon temperatures were in the 50's and 60's. Weekly averages were 3° to 6° below normal across the north half but near or slightly above normal in the South, where maximums were in the 90's on most afternoons. Phoenix, Arizona, reported 100° or plus each day with a weekly high of 108°. South Carolina reported the highest weekly average temperatures of the year but was cooler at the weekend.

PRECIPITATION: Most western areas had little or no rain, except 0.5 inch or more in Oregon and Washington and into northern Montana. In the eastern half there were widespread but mostly brief showers with weekly amounts of 0.5 to 1.5 inches in most areas. Scattered areas in the Northeast had 0.75 inch or more.

SEVERE STORMS: The changing weather pattern brought tornadoes and severe thunderstorms to midwestern areas extending from Iowa to Ohio. Especially severe storms occurred late Wednesday and Thursday. Decorah, Iowa, reported 4.5-inch hail. A tornado 15 miles northwest of Dubuque, Iowa, was accompanied by 3-inch hail with one hailstone measured at 14.5 inches in circumference. The severe weather caused millions in damage, numerous personal injuries, and 4 fatalities. (Summary supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - WISCONSIN - Melanoplus femurrubrum (red-legged grasshopper) populations as high as 80 per square yard noted in several scattered fields of alfalfa in Columbia County; in some instances, adults comprise approximately 50 percent of population, although fifth instars dominant in most locations. Less than 10 percent of females contain eggs; about 8 percent noted as parasitized. Some disease evident. Grasshoppers reported numerous in La Crosse County. Grasshopper damage to new seedling alfalfa in particular reported from Columbia and Barron Counties. Some heavy feeding on marginal rows of corn near recently cut alfalfa evident in few southern areas. (Wis. Ins. Sur.). MINNESOTA - Adult grasshopper populations very scattered and localized in southwest district. Threatening to severe populations found in fields in Pipestone, Redwood, Lyon and Nobles Counties. Populations light in most fields in district. Low counts in some alfalfa traced to movement of grasshoppers into adjacent corn and soybeans; some counts of 12-18 per square yard found in these crops. Grasshoppers noneconomic to light in all fields checked in south central district. In west central district, threatening to severe infestations found in Lac qui Parle, Traverse, Otter Tail, Chippewa and Big Stone Counties. Apparently most fields in west central district will rate threatening, indicating 8-14 grasshoppers per square yard. M. femurrubrum remains predominant species in State. M. differentialis (differential grasshopper) now important in only few fields; probably moved into corn and soybeans and did not return to alfalfa. Most M. femurrubrum returned to alfalfa after hay removal and regrowth. As only alfalfa was checked, many M. differentialis probably not detected. (Minn. Ins. Rpt.). NORTH DAKOTA - Threatening to severe adult grasshopper infestations exist in 2 isolated areas in northwest section of State. Light to threatening infestations present in approximately 15 percent of State; remaining infestations noneconomic. Generally, grasshopper damage still negligible throughout State. (Thomasson).

SOUTH DAKOTA - As of August 23 in cropland areas surveyed in 21 counties, adult grasshopper infestations heaviest in northeastern Buffalo, southern Jerauld, northern Aurora, eastern Douglas and portions of Beadle County; damage occurring to corn in edges of fields and in some fields of alfalfa in these named counties. Infestations mostly light or noneconomic in other counties surveyed. (Burge, Novotny). Light grasshopper infestations found on rangeland east of Hereford, Meade County; area extends 14 miles along Belle Fourche River and is approximately 9 miles wide. Light to threatening grasshopper infestations found in cropland areas in eastern portions of Meade and Pennington Counties. (Burge, Zimmerman). M. femurrubrum averaged 46 per 100 sweeps in second-growth alfalfa held for seed at Brookings, Brookings County. (Walstrom).

NEBRASKA - Light adult populations of M. femurrubrum feeding on corn silks in Hamilton and York Counties. (Rhine). OKLAHOMA - Damage by several species to rangeland and some crops continues in Garvin, Bryan, Cleveland and Mayes Counties. (Okla. Coop. Sur.). NEW MEXICO - Grasshoppers averaged less than 1 per square yard in De Baca, Guadalupe, San Miguel and Mora Counties, except for 2 rangeland areas; second and third instars ranged as high as 2 per square yard north of Las Vegas, San Miguel County, and averaged about 2 per square yard in an area about 4 miles south of Dilia, Guadalupe County. Averaged about 5 per square yard in an area near Capitan, Lincoln County. Species included Melanoplus lakinus, M. bivittatus (two-striped grasshopper), M. sanguinipes (migratory grasshopper), Phlibostroma quadrimaculatum, Drepanopterna femoratum, Ageneotettix deorum and Trachyrhachys kiowa. (Seaton). UTAH - Egg laying underway generally. Damaging grasshopper populations still exist at numerous localities throughout State. Spring and summer storms reduced migrations from range to cultivated crops in small local areas; occurrence of fungus disease also evident. (Knowlton). CALIFORNIA - Grasshoppers infesting 200-acre area in Hills Valley Meadow area of Modoc County. Camnula pellucida (clear-winged grasshopper) ranged 20-30 per square yard on 160 acres of rangeland in Scammon Reservoir area of same county. Immature forms and adults present. (G. Harmon).

A BILLBUG (Sphenophorus venatus vestitus) - KANSAS - Collected from zoysia grass in Johnson County on August 16 by R. Keen. Det. by J. Kingsolver. This is a new State record. Zoysia grass originated from out of State in February 1964. (Keen).

WHITE GRUBS - WISCONSIN - Reports from scattered areas of State indicate unusual amount of damage to pastures, lawns and turf. Also damaging newly planted evergreens. (Wis. Ins. Sur.).

CHINCH BUG (Blissus leucopterus) - NEW YORK - Damaging lawns in Nassau and Suffolk Counties and in New Hartford-Whitesboro area of Oneida County. (N.Y. Wkly. Rpt., Aug. 23). NEW JERSEY - Active in turf in several areas of State. Severe damage to turf reported in Chatham area, Morris County. (Ins.-Dis. Newsltr.). OHIO - Reported infesting sorghum and Sudan grass in Shelby County. (Lutz). MISSOURI - Adults and nymphs building up on corn in Knox and Shelby Counties; numbers remain noneconomic, however. (Houser).

A FALSE CHINCH BUG (Nysius raphanus) - CALIFORNIA - Adults heavy in grass and yards in Mojave, Kern County, and heavy in San Marcos, San Diego County. (Cal. Coop. Rpt.).

A SPITTLEBUG (Prosapia bicincta) - ALABAMA - Nymphs and adults extremely heavy and damaging Coastal Bermuda grass and other grasses and weeds in Chambers, Lee, Barbour and several other central counties. (Johnson et al.).

RHODES-GRASS SCALE (Antonina graminis) - ARIZONA - Light to medium and damaging Bermuda grass lawns in Safford area of Graham County. (Ariz. Coop. Sur.).

CORN EARWORM (Heliothis zea) - NEVADA - Larvae heavy in corn in Swingle Bench area, Churchill County; ranged 1-3 per ear. (Cooney). UTAH - Infesting approximately 100 percent of sweet corn in some fields and gardens in Box Elder, Cache and Uintah Counties. (Knowlton, Davis). Reports from throughout State indicate infestation much higher than normal. Damage heavy on tassels of corn just tasseling at Caneville, Wayne County. (Knowlton). NEW MEXICO - Heavy population damaged approximately 40 acres of grain sorghum near Clovis, Curry County. (Crystal). This and Spodoptera frugiperda (fall armyworm) damaged corn in Torrance County fields. (Coppock). H. zea light to moderate in tassels, whorls and ears of sweet corn in Albuquerque, Bernalillo County. (Gomez, Garcia). OKLAHOMA - Heavy in irrigated sorghum in Texas County; moderate in sorghum in Major, Kingfisher and McCurtain Counties. Reported moderate in corn in McCurtain County. Averaged 20 per 100 terminals in peanuts in Tulsa County and 12 per 100 terminals in Bryan County. Averaged 15 per 10 feet of row in Sequoyah County soybeans; much lighter in other east central counties. (Okla. Coop. Sur.). ARKANSAS - Buildup continues in late-planted, combine-type milo in eastern area. In one Jefferson County field, larvae in sorghum heads increased from 4,560 per acre to 21,606 per acre. (Ark. Ins. Sur.). KANSAS - Infestation ranges 25-75 percent in northeast area. (Simpson). NEBRASKA - Averaged 1 larva per 3 ears of field corn in some areas of Dundy County and 2 larvae per 10 ears in some areas of Dawson County. (Hagen, Rhine).

WISCONSIN - First-stage larvae found in several fields of sweet corn in which silks just becoming brown. Infestation no greater than 4 percent in any instance. Blacklight trap reports indicate moth flights in certain areas substantially greater than at same time in 1964. (Wis. Ins. Sur.). MICHIGAN - General influx of adults can be expected whenever suitable weather prevails. Single specimen taken in Wayne County blacklight trap. (Newman, Palmer). NEW YORK - None found at Mount Morris or Batavia but expected by August 27. Examination of 100 silking ears showed 12 small larvae at New Paltz and 4 at Hurley. Controls recommended in Hudson Valley. (N.Y. Wkly. Rpt., Aug. 23). NEW JERSEY - Heavy adult numbers continue to be taken in light traps. Spray applications to sweet corn should be made every 2-3 days. (Ins.-Dis. Newsltr.). DELAWARE - Adult collections in blacklight traps showing marked increase; over 200 taken August 24. (MacCreary, Woodall). MARYLAND - Ovipositing on soybeans in Worcester County. (U. Md.,

Ent. Dept.). VIRGINIA - None found on soybeans surveyed in King George, Westmoreland, Northumberland, Richmond, Essex, Middlesex, King and Queen, King William, Caroline and Hanover Counties. (Isakson). NORTH CAROLINA - Infesting soybeans in blooming stage in 8 of 9 fields checked in Perquimans, Pasquotank, Camden and Currituck Counties; larvae ranged 5-35 (average 23) per 25 feet of row in these 8 fields. Larvae averaged 1.4 per 25 feet of row in 9 fields of soybeans in pod-fill stage. Most larvae in young fields very small. (Mount). SOUTH CAROLINA - Heavy in several isolated fields of corn in Lee County. Light infestation general in county. Buildup observed in many fields of corn in Allendale County. (Funchess, Aug. 24). GEORGIA - Light to moderate in Bleckley County soybeans. (Lawson, French). ALABAMA - Infesting soybeans in Perry, Talladega, Limestone and other northern counties. Reported as appearing in peanuts in areas of Covington County. (McQueen, Kindred, Ledbetter).

FALL ARMYWORM (Spodoptera frugiperda) - NEW YORK - Small larvae threatening tasseling corn in western section. (N.Y. Wkly. Rpt., Aug. 23). NEW JERSEY - Adults continue heavy in light trap collections. Sprays on sweet corn should be made at 2-3 day intervals. (Ins.-Dis. Newsltr.). MARYLAND - Damaging sweet corn and sorghum-Sudan hybrid in Montgomery and Howard Counties. (U. Md., Ent. Dept.). VIRGINIA - No infestations found in soybeans surveyed in King George, Westmoreland, Northumberland, Richmond, Essex, Middlesex, King and Queen, King William, Caroline and Hanover Counties. (Isakson). NORTH CAROLINA - Not found in soybeans checked in Perquimans, Pasquotank, Camden and Currituck Counties. (Mount). SOUTH CAROLINA - Damage apparent on shucks of corn in Beaufort County; lack of filling of ears and poor coverage by shucks also evident. (Nolen, Rogers, Aug. 24). GEORGIA - Larvae reported infesting several lawns in Spalding County. (Dupree). OKLAHOMA - Reported moderate on sorghum in Major and Hughes Counties. (Okla. Coop. Sur.). NEBRASKA - Larvae light in Hamilton County corn. (Rhine).

WISCONSIN - Few larvae noted feeding on silks in few fields of sweet corn checked. Severely damaged portions of field of field corn in Walworth County; most larvae already pupated. (Wis. Ins. Sur.).

ARMYWORM (Pseudaletia unipuncta) - NEVADA - Larvae heavy in wheat in Diamond Valley, Eureka County. Full-grown larvae and pupae present; as fields to be harvested within next 7 days, no controls applied. (Joy). RHODE ISLAND - Reported infesting corn in Little Compton, Newport County. (Peabody).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - NEBRASKA - Averaged 1 larva per 10-15 ears of field corn in some areas of Dundy County. (Hagen).

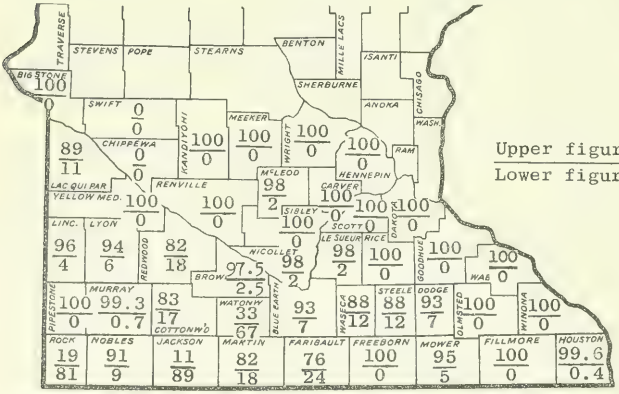
VARIEGATED CUTWORM (Peridroma saucia) - WISCONSIN - Larvae common on silks of sweet corn in area of Dane County. (Wis. Ins. Sur.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Larvae ranged 10-15 per corn plant in Marshall, Nemaha and Brown Counties; ranged 1-6 per plant in some fields in Riley and Pottawatomie Counties. (Simpson). NORTH DAKOTA - Light infestations noted in northeastern counties; second-generation pupation in southeastern counties less than 1 percent. (Thomasson). WISCONSIN - Blacklight trap collections indicate peak flight probably passed in southern area; may also have passed in more northern areas, as larvae not pupated by late August will probably not do so this season. Egg masses ranged from freshly laid to black-head stage, although few second-stage larvae still noted in more advanced areas. Most eggs found on late field corn or sweet corn recently silked. Highest percentage of eggs was 8. Some limited treatment of corn underway. (Wis. Ins. Sur.). MICHIGAN - Heavy adult flight continues; moths especially numerous around lights near infested corn at night. (Newman). OHIO - Unusually heavy infestation noted in field of corn near Oakland, Fairfield County; larvae ranged 1-2 per plant in nearly all plants examined. Few larvae noted on ears. (Rose). MARYLAND - Considerable numbers noted in field corn in Carroll County. Larvae and empty pupal cases found in stalks. (U. Md., Ent. Dept.). NEW YORK - Small larvae light in tasseling corn in western section. Examination of 100 silking ears showed 2-3 with small larvae at New Paltz and 2 at Hurley. Increase expected in western section. (N.Y. Wkly. Rpt., Aug. 23).

SALT-MARSH CATERPILLAR (Estigmene acrea) - WISCONSIN Larvae common on corn silks in many fields of corn examined. (Wis. Ins. Sur.).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - NORTH CAROLINA - Infesting most stalks in small field of late-planted corn in Camden County; 2-4 larvae present in each stalk. Infestation 70 percent in adjoining field of mature corn. Some infestation noted in most fields checked in county. (Tuten, Mount).

CORN ROOTWORMS (Diabrotica spp.) - SOUTH DAKOTA - D. virgifera (western corn rootworm) adults ranged 3-4 per stalk in field of corn in Lincoln and Turner Counties. Diabrotica spp. adults averaged 8 per plant further north in Moody County where silks not entirely brown. Mixed population in area approximately 60 percent D. longicornis (northern corn rootworm) and 40 per cent D. virgifera. Mating prevalent in all fields checked. Some fields of corn observed in eastern counties showing signs of drought. (Jones). MINNESOTA - Survey completed in southern portion of State. (See CEIR 15(35):993-994 for preliminary results.) Considerable reduction in number of D. virgifera indicated, especially in southwestern counties. The accompanying map represents precentages of D. longicornis and D. virgifera found during survey. Also see map CEIR 15(20):476). (Minn. Ins. Rpt.).



Upper figure = northern corn rootworm
Lower figure = western corn rootworm

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - WISCONSIN - Ranged 0-27 (average 12) per 10 corn plants in Grant County, 0-12 (average 4) per 10 plants in Crawford County and 0-60 (average 19) per 10 plants in Vernon County. Populations generally high in eastern Rock and western Walworth Counties; average 4 per plant; this average in fields with yellow silks. Much leaf feeding on corn beginning to tassel present in area. Resistant strains of D. longicornis definitely demonstrated in several fields in Rock County treated for several years with chlorinated hydrocarbon insecticides. This is second area of State in which resistance has been found. Considerable lodging evident in these fields. (Wis. Ins. Sur.). MICHIGAN - Infestations appear slightly more widespread this season; corn on heavier soils more subject to infestation. (Janes). MARYLAND - Adults noted on silks of corn and on foxtail grass in edge of field in Carroll County. No injury observed. (U. Md., Ent. Dept.). DELAWARE - Adults taken in mosquito trap at Stanton on August 23 and 24. Has now been taken at 5 localities in New Castle County. (MacCreary, Woodall). See CEIR 15(35):994.

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - MARYLAND - Unusual larval infestation noted in field of corn in Carroll County. Full-grown larvae noted around large plants; feeding on stems at root bases and just under soil surface. Apparently cutting roots. At least 20 percent of plants lodged. Adults numerous on silks. (U. Md., Ent. Dept.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - WISCONSIN - Found in St. Croix, Crawford and Vernon Counties during survey. Crawford and Vernon Counties are new county records. Other counties bordering Mississippi River being surveyed. (Wis. Ins. Sur.). MISSOURI - Adults very light in Clark County; this is a new county record. (Brotemarkle). None found during surveys in Lewis, Knox, Shelby, Macon, Chariton, Boone, Cooper, Benton, Johnson and Bates Counties. (Houser).

CORN FLEA BEETLES (Chaetocnema spp.) - ARIZONA - Moderate to heavy damage by C. ectypa (desert corn flea beetle) observed on young sorghum in areas of Maricopa County. (Ariz. Coop. Sur.). MARYLAND - Adults and larvae of C. pulicaria (corn flea beetle) abundant in Carroll County field corn. (U. Md., Ent. Dept.).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - IDAHO - Damaging silks of corn in backyard gardens in Salmon, Lemhi County. (Hillman).

A WEEVIL (Anacentrinus deplanatus) - TEXAS - Light, local damage reported in fields of grain sorghum in Denton County. (Turney).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW HAMPSHIRE - Continues problem on ears of sweet corn in southern area. In several fields of field corn in area, large numbers of lady beetles and syrphid flies noted where aphid populations greatly reduced. (Sutherland, Aug. 20). NEW YORK - Severe on corn in late silk stage in western section. All stages of lady beetles abundant and aphid numbers appeared declining. (N.Y. Wkly. Rpt., Aug. 23). MARYLAND - Abundant in some field corn on central Eastern Shore. (U. Md., Ent. Dept.). MICHIGAN - Over 99 percent of population present earlier in colonies on variety trials now gone in Gratiot County. None of 30 commercial corn varieties checked August 24 free of colonies, however; infestation varied among varieties, with some heavy yielding varieties also showing high aphid numbers earlier. (Baker). WISCONSIN - Although populations practically nonexistent in southern counties, fairly high numbers reported in fields of corn in northwestern area and in scattered fields near Lake Winnebago. (Wis. Ins. Sur.). NORTH DAKOTA - Numbers apparently increasing on corn but represent little or no economic threat. (Thomasson). OKLAHOMA - Reported moderate in grain sorghum in Mayes and Major Counties. (Okla. Coop. Sur.). UTAH - Light on corn at Ogden, Weber County, and at Clinton, Davis County. (Knowlton).

RICE STINK BUG (Oebalus pugnax pugnax) - ARKANSAS - Small numbers of nymphs found in heads of sorghum in dough-stage in Jefferson County. (Ark. Ins. Sur.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Surveys in panhandle area indicate midge emergence has not occurred from grain sorghum head samples taken in area; following pattern of recent years, populations not of significance in this area of State. Populations continued to increase in favorable fields in south plains area; movement detected by sticky board traps decreased, but emergence from sorghum heads increased greatly. Infestations spotted over south plains area in late blooming fields and fields with numerous sucker heads. Activity heaviest in Floyd, Hale and Lamb Counties. (Daniels, Rummell, Hogg).

SPIDER MITES - NEW MEXICO - Heavy on sweet corn in home gardens at Pajarito, Bernalillo County. (Heninger). UTAH - Tetranychus telarius (two-spotted spider mite) caused light damage to corn in Box Elder County; damaged outer rows of sweet corn in some fields in Ogden-Roy area, Weber County. Generally, damage to corn in northern part of State well below normal to date. (Knowlton).

PEA APHID (Acyrthosiphon pisum) - MARYLAND - Up to 50 per sweep noted in 17 fields of alfalfa surveyed in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). OHIO - Populations on alfalfa in southwest area apparently increased moderately during past 1-2 weeks. Average counts per sweep ranged from 7 in a Greene County field to 12 in Highland County and 18 in Ross County. Most numerous aphid predators included Hippodamia convergens (convergent lady beetle) and H. parenthesis; averaged about 1 per sweep in Greene County alfalfa. (Rose.)

INDIANA - Ranged 0-10 per sweep in alfalfa over southern two-thirds of State. (White). WISCONSIN - Remains insignificant, with few winged forms appearing in regrowth alfalfa. All winged forms not sexual individuals. (Wis. Ins. Sur.). NEBRASKA - Averaged 500 per 100 sweeps in alfalfa in western and central sections. Predator populations high. (Rhine). COLORADO - Continues low in western area alfalfa; ranged 300-400 per 100 sweeps. (Bulla). WYOMING - Small numbers of adults and nymphs found in alfalfa in western area; averaged 188 per 100 sweeps in northern counties and ranged 280-320 per 100 sweeps in southern counties. (Marks). NEVADA - Ranged 0-12 per sweep in Douglas County alfalfa. (Cooney).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Ranged 0-5 per sweep in Douglas County alfalfa. This first report from Douglas County this season. (Cooney). COLORADO - Populations remain low on alfalfa in western area; ranged 100-200 per 100 sweeps. (Bulla). KANSAS - Averaged 200 per 100 sweeps in alfalfa in Riley and Pottawatomie Counties. (Simpson). OKLAHOMA - Reported light to moderate in alfalfa in Kingfisher and Kiowa Counties. Ranged 5-60 per 10 sweeps in alfalfa in Major, Tulsa, Muskogee, Sequoyah and Le Flore Counties. (Okla. Coop. Sur.). WISCONSIN - Increased somewhat in few fields of regrowth alfalfa, although increase not significant. (Wis. Ins. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - SOUTH DAKOTA - Averaged 340 per 100 sweeps in second-growth alfalfa held for seed at Brookings, Brookings County. (Walstrom). INDIANA - Adults ranged 1-2 per sweep over southern two-thirds of State. (White). OHIO - Ranged 1-2 per sweep in alfalfa checked in Ross and Greene Counties. (Rose).

LYGUS BUGS (Lygus spp.) - NEVADA - Averaged 8 per sweep in Douglas County alfalfa. (Cooney). ARIZONA - Populations apparently decreased slightly in alfalfa in southern half of State. (Ariz. Coop. Sur.). NEW MEXICO - Moderately abundant in alfalfa checked in Quay, Lea and Eddy Counties. (Kloepfer). WYOMING - Adults and nymphs averaged 88 per 100 sweeps in alfalfa in western area. (Marks).

PLANT BUGS - OHIO - Generally low in alfalfa in Ross and Greene Counties. (Rose). INDIANA - Adelphocoris lineolatus (alfalfa plant bug) adults averaged 2 and immatures averaged 4 per sweep in alfalfa over southern two-thirds of State. (White). SOUTH DAKOTA - A. lineolatus averaged 143 per 100 sweeps in second-growth alfalfa held for seed at Brookings, Brookings County. (Walstrom). UTAH - A. superbus (superb plant bug) light in alfalfa in Vernal-Jensen area, Uintah County. (Knowlton).

POTATO LEAFHOPPER (Empoasca fabae) - NEW HAMPSHIRE - Severely yellowed some alfalfa in southern portion of State. (Sutherland, Aug. 20). VERMONT - Unusually heavy on alfalfa; yellowing noticeable in all areas. (MacCollom, Aug. 23). MARYLAND - Numbers decreased in alfalfa surveyed in Frederick and Queen Annes Counties; highest count 8 per sweep. (U. Md., Ent. Dept.). WISCONSIN - High counts persist in alfalfa in scattered fields although yellowing masked by rapid leaf growth. Nymphs still average as high as 60 per sweep. (Wis. Ins. Sur.). SOUTH DAKOTA - Averaged 136 per 100 sweeps in second-growth alfalfa held for seed at Brookings, Brookings County. (Walstrom).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Increasing rapidly and causing moderate to heavy damage to alfalfa in Graham, Greenlee, Cochise, Pinal, Maricopa and Yuma Counties. (Ariz. Coop. Sur.). OKLAHOMA - Ranged 3-12 per 10 sweeps in alfalfa in Muskogee, Sequoyah, Tulsa and Le Flore Counties. Light in soybeans in east central area; no counts higher than 10 per 10 feet of row. (Okla. Coop. Sur.).

FIELD CRICKETS (Gryllus spp.) - SOUTH DAKOTA - Damaging numbers of 20 per square yard present in field of alfalfa in Moody County. (Berndt).

SNOWY TREE CRICKETS (Oecanthus spp.) - ARIZONA - Ranged 20-200 per 100 sweeps in alfalfa in areas of Yuma County. (Ariz. Coop. Sur.).

STRAWBERRY SPIDER MITE (Tetranychus atlanticus) - MARYLAND - Noted on edges of few fields of soybeans in Caroline County. (U. Md., Ent. Dept.)

ALFALFA WEEVIL (Hypera postica) - NEVADA - Adults varied 1-7 per sweep in several fields of alfalfa in Douglas County. (Cooney). UTAH - Severe attack to second-growth crop will result in some growers not obtaining third cutting of alfalfa in Uintah County. (Lindsay, Knowlton). Adults observed flying at Logan, Cache County, August 20-25; flight heaviest last 2 days. (Davis, Southwick). WYOMING - Larvae continue to cause light damage to alfalfa in western counties. Larval counts per 100 sweeps by county as follows: Fremont 55, Sublette 140, Teton 160, Lincoln 185, Sweetwater 78, Carbon 54. (Marks). MARYLAND - Light in 17 fields of alfalfa surveyed in Frederick and Queen Annes Counties; up to 2 larvae per sweep in few fields with fewer adults noted. (U. Md., Ent. Dept.). VERMONT - Larvae still found in some alfalfa. (MacCollom, Aug. 23).

BEAN LEAF BEETLE (Cerotoma trifurcata) - OKLAHOMA - Ranged 2-14 per 10 feet of row in soybeans checked in Wagoner, Muskogee, Sequoyah, Tulsa and Le Flore Counties. (Okla. Coop. Sur.). ARKANSAS - Numbers increased to average of 19.3 per 30 feet of row in 21 fields of soybeans surveyed in Jefferson, Arkansas, Monroe and Lee Counties. Observed actively feeding on pods; approximately 50 percent of pods showed damage. (Ark. Ins. Sur.). VIRGINIA - None found in most soybeans checked in King George, Westmoreland, Northumberland, Richmond, Essex, Middlesex, King and Queen, King William, Caroline and Hanover Counties, but very light in other fields. (Isakson).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Ranged light to medium in many fields of soybeans in several areas of State. (Deakle et al.). SOUTH CAROLINA - Serious damage to soybeans noted in areas adjacent to Kershaw County. (Linder, Lee, Aug. 24). VIRGINIA - Ranged from light in most fields of soybeans checked in King George, Westmoreland, Northumberland, Richmond, Essex, Middlesex, King and Queen, King William, Caroline and Hanover Counties to heavy in one Westmoreland County field. (Isakson).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - KANSAS - Averaged 12 per 25 sweeps in most alfalfa checked in northeast area. (Simpson). NEW HAMPSHIRE - Averaged 2 per 10 sweeps in alfalfa at Durham, Strafford County. (Sutherland).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Ranged 1-12 per 10 feet of row in most soybeans in east central area; averaged 55 per 10 row feet in one field in northern Le Flore County. Averaged 13 per 10 sweeps in alfalfa in Tulsa County. (Okla. Coop. Sur.). ARKANSAS - Averaged 16.4 per 30 feet of row in 21 fields of soybeans surveyed in Jefferson, Arkansas, Monroe and Lee Counties compared with 19.3 per 30 feet of row previous week. (Ark. Ins. Sur.). ALABAMA - Heavy on soybeans in Perry, Talladega, Limestone and other northern counties. Appearing in peanuts in areas of Covington County. (McQueen, Kindred, Ledbetter). SOUTH CAROLINA - Noted on soybeans in Lee County, but not yet a problem. (Funchess, Aug. 24). NORTH CAROLINA - This and Trichoplusia spp. generally low in soybeans in Perquimans, Pasquotank, Camden and Currituck Counties. (Mount). VIRGINIA - Frequently observed in soybeans checked in King George, Westmoreland, Richmond, Essex, Middlesex, King and Queen, King William, Caroline and Hanover Counties, but not in large numbers. (Isakson). MICHIGAN - Ranged 0-2 per 20 sweeps in 2 fields of alfalfa checked in Gratiot County. (Newman).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Increasing in alfalfa in Graham and Greenlee Counties; averaged 75 per 100 sweeps. (Ariz. Coop. Sur.). OKLAHOMA - Larvae averaged 7 per 10 feet of row in Bryan County soybeans. None seen in east central area soybeans. (Okla. Coop. Sur.). ARKANSAS - No larvae noted on soybeans to August 28; however, first moths of season observed at night during this reporting period. (Ark. Ins. Sur.).

LOOPERS - ALABAMA - Trichoplusia ni (cabbage looper) and Pseudoplusia includens heavy on soybeans in southern and central areas of State. P. includens most numerous. Det. by T. D. Canerday. Both species also reported feeding on

soybeans in more northern counties, especially in Perry, Talladega and Limestone Counties. (McQueen). These species appearing on peanuts in areas where present on soybeans in Covington County. (Ledbetter, Kinard). GEORGIA - Infestations of unspecified species in soybeans range moderate to heavy in Bleckley County. (Lawson, French). NORTH CAROLINA - Trichoplusia spp. reported a problem in soybeans in Pamlico County; ranged 8-12 per plant in one field. Also reported a problem in several fields of soybeans in Anson County. (Scott, Mount, Rea). Reported a problem in peanuts in Northampton County. (Scott, Harrell).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - UTAH - Damaged alfalfa at Fielding, Box Elder County. (Nye, Knowlton).

BEET ARMYWORM (Spodoptera exigua) - GEORGIA - Very light in soybeans in Bleckley County. (Lawson, French).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Present in soybeans in Perry, Talladega, Limestone and other northern counties, but in lesser numbers than other soybean pests. (Deakle et al.). NORTH CAROLINA - Not present in soybeans checked in Perquimans, Pasquotank, Camden and Currituck Counties. (Mount).

CUTWORMS - SOUTH CAROLINA - Extremely heavy on peanuts in few fields in Sumter County. Controls applied. (Bowen, Aug. 24). GEORGIA - Moderate on peanuts in Bleckley County. (Lawson).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Large adult flights observed in areas of Graham, Cochise and Maricopa Counties. Larval counts remain light except in Yuma County where infestations moderate in alfalfa. (Ariz. Coop. Sur.). WYOMING - Larvae ranged 40-56 per 100 sweeps in Lincoln County alfalfa. Considerable adult activity also noted. (Marks). NEBRASKA - Larvae average 10 per 100 sweeps in western and central sections. (Rhine). MARYLAND - Up to 2 larvae per sweep in alfalfa in 17 fields surveyed in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Averaged 33 per 100 terminals in peanuts in Tulsa County and 81 per 100 terminals in Greer County. Reported moderate in Bryan County peanuts. (Okla. Coop. Sur.).

SKIPPERS - CALIFORNIA - Erynnis funeralis larvae infesting alfalfa in Bard, Imperial County. Lerodea eufala eufala larvae light in corn in Madera, Madera County; this is unusual for this species. (Cal. Coop. Rpt.).

FRUIT INSECTS

APPLE MAGGOT (Rhagoletis pomonella) - VERMONT - Adults still active in wild trees and abandoned blocks. (MacCollom, Aug. 23). NEW YORK - Plentiful in unsprayed blocks in Orleans County; continued protection recommended. Last adult emergence in Monroe County noted at Webster August 17. (N.Y. Wkly. Rpt., Aug. 23). NEW JERSEY - Total of 16 adults caught on 2 sticky board traps at Hardingville August 27. (Ins.-Dis. Newsltr.). MICHIGAN - Trap catches still indicate high adult populations in Kent, Oceana and Grand Traverse Counties. (Howitt). WISCONSIN - Adult activity decreased; total of 9 taken in ammonia bait trap on crab apple tree in Madison area. Larvae common in Wellington apples in well-treated orchard. Larvae present in larger than normal numbers in Wealthy apples in Outagamie County. (Wis. Ins. Sur.).

CODLING MOTH (Carpocapsa pomonella) - VERMONT - Pupation not observed; no second brood expected. (MacCollom, Aug. 23). NEW YORK - Entries found in some apple fruit in Orleans County. Second brood under control in Monroe County. (N.Y. Wkly. Rpt., Aug. 23). MICHIGAN - Emergence continues in Kent County cage; second brood larval "stings" common in unsprayed or poorly sprayed apple trees in southwestern and western sections. (Gilmore, Carpenter). COLORADO - Larval damage to pears in Mesa County one percent or less. Little activity expected

late in season due to cool weather. (Bulla). ARIZONA - Larvae heavily damaging apples in Graham and Cochise Counties. (Ariz. Coop. Sur.). CALIFORNIA - Medium locally on apples in Livermore, Alameda County. (Cal. Coop. Rpt.).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - NEW JERSEY - Total of 56 adults caught in light trap at Glassboro on August 23, 27. (Ins.-Dis. Newsltr.). MICHIGAN - Few larvae found in harvested peaches in southwest section; commercial control generally good. (Carpenter).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - NEW YORK - Second brood appears under control in Monroe County. (N.Y. Wkly. Rpt., Aug. 23). MICHIGAN - Few orchards infested; larval injury very low this season. (Carpenter).

LESSER PEACH TREE BORER (Synathedon pictipes) - MICHIGAN - Larval infestations generally lighter than in previous years; superior controls considered responsible. (Carpenter).

PEACH TWIG BORER (Anarsia lineatella)- OREGON - Larvae medium in peach orchards in Jackson County. (Berry).

YELLOW-NECKED CATERPILLAR (Datana ministra) - OHIO - Stripping some apple tree leaves at West Union, Adams County. (Mowbray, Holdsworth).

A PHYCITID MOTH (Acrobasis tricolorella) - MICHIGAN - Larvae spinning hibernaculae in cherry orchards in Grand Traverse County for past 2 weeks. (Howitt).

FILBERTWORM (Melissopus latiferreanus) - CALIFORNIA - Heavy locally on peach fruit in La Grange, Stanislaus County. (Cal. Coop. Rpt.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - NEW YORK - Very few observed in Orleans County during August. (N.Y. Wkly. Rpt., Aug. 23). MICHIGAN - Adults and nymphs building up in apple research plots in southwestern counties; averaging 8 per leaf on some trees. Infesting commercial apples, peaches, plums, small fruits and muskmelons. (Howitt, Carpenter). COLORADO - Light to moderate in peach orchards in western section; populations retarded by cool rainy weather of past 2 weeks. Elberta peach harvest to start soon. (Bulla).

EUROPEAN RED MITE (Panonychus ulmi) - MICHIGAN - Populations of adults and nymphs peaked in research plots in Van Buren and Kalamazoo Counties in early August. High but decreasing in commercial orchards in western section. Winter eggs appearing. (Howitt, Carpenter, Gilmore).

ORCHARD MITES - NEW YORK - Still very troublesome in orchards in Monroe County Red species passed peak in Orleans County. (N.Y. Wkly. Rpt., Aug. 23). VERMONT - Tetranychus telarius (two-spotted spider mite) and Panonychus ulmi (European red mite) remain troublesome in some blocks. (MacCollom, Aug. 23).

PEACH SILVER MITE (Aculus cornutus) - COLORADO - Light to moderate on peaches in western section. Populations retarded by cool rainy weather of past 2 weeks. (Bulla). CALIFORNIA - Heavy on peach nursery stock in Millbrae, San Mateo County. (Cal. Coop. Rpt.).

APPLE RUST MITE (Aculus schlechtendali) - CALIFORNIA - Medium on apple trees in Millbrae, San Mateo County. (Cal. Coop. Rpt.).

PLUM RUST MITE (Aculus fockeui) - CALIFORNIA - Medium on Black Tartarian cherry tree nursery stock in Millbrae, San Mateo County. (Cal. Coop. Rpt.).

SAN JOSE SCALE (Aspidiotus perniciosus) - MARYLAND - Noted on apple fruit at Snow Hill. (U. Md., Ent. Dept.). NORTH CAROLINA - Infesting peach and cherry in Iredell County. (Franklin, Robertson).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Heavy on apple trees in some orchards in Hondo Valley, Lincoln County. (N.M. Coop. Rpt.).

A SAP BEETLE (Carpophilus mutilatus) - CALIFORNIA - Adults medium on nectarine fruit in Oroville, Butte County. (Cal. Coop. Rpt.).

SHOT-HOLE BORER (Scolytus rugulosus) - CALIFORNIA - Heavy on apricot trees in San Luis Obispo, San Luis Obispo County. (Cal. Coop. Rpt.).

A LACE BUG (Corythuca pruni) - NEW HAMPSHIRE - Severely stippling black cherry foliage at Durham. (Sutherland).

BUFFALO TREEHOPPER (Stictocephala bubalus) - VERMONT - Easily found in legume stands; orchardists should keep close check on young trees. (MacCollom, Aug. 23).

APHIDS - MICHIGAN - Adults and nymphs numerous on Carpathian walnut trees in Gratiot County. (Sommers, Newman). TEXAS - Unspecified species moderate to heavy and widespread on pecans in Caldwell, Guadalupe and Hays Counties. (Texas Coop. Rpt., Massey). Monellia sp. light to moderate locally on pecans in Denton County. (Turney). UTAH - Aphids numerous on black walnut at Providence, Cache County. (Hanson, Knowlton).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Moderate in pecans in Nowata and Kiowa Counties. (Okla. Coop. Sur.). TEXAS - Surveys in Valley View area, Cooke County, negative. (Turney).

FRUIT FLIES (Rhagoletis spp.) - MICHIGAN - Numerous adults and few late instars found in planting of Carpathian walnut in Gratiot County. (Sommers, Newman). OREGON - R. completa (walnut husk fly) trapping in southern section revealed infestations at Phoenix, Talent, Medford and Gold Hill in Jackson County. (Larson).

STINK BUGS - GEORGIA - Causing premature nut drop on pecans in Morgan County. (West).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Moderately damaging to pecans in Cleveland County. (Okla. Coop. Sur.).

SWALLOWTAIL BUTTERFLIES (Papilio spp.) - ARIZONA - Larvae causing light damage to citrus in Yuma, Pinal and Maricopa Counties. (Ariz. Coop. Sur.). CALIFORNIA - P. zelicaon larvae medium and damaging citrus trees in McFarland, Kern County. (Cal. Coop. Rpt.).

FALL WEBWORM (Hyphantria cunea) - OREGON - Light to medium on walnut and apple trees in Willamette Valley; averaged 1-2 webs per tree in most areas. (Larson). ALABAMA - Heavy on pecan trees in Geneva County (Johnson). GEORGIA - Moderate on pecan trees in Harris County. (Williams). NEW JERSEY - This and Datana spp. (notodontid moths) now active in blueberries. No controls recommended. (Ins.-Dis. Newsltr.).

GRAPE BERRY MOTH (Paralobesia viteana) - MICHIGAN - Emergence began August 19; laying eggs for third brood larvae. (Carpenter).

CRANBERRY FRUITWORM (Acrobasis vaccinii) - MASSACHUSETTS - Late oviposition caused rather severe infestations in southeastern section; more damaging than expected. (Tomlinson).

CRANBERRY GIRDLER (Crambus topiarius) - NEW JERSEY - Spotty infestations causing concern in all eastern cranberry areas. (Ins.-Dis. Newsltr.).

A SCARAB (Cotinis texana) - ARIZONA - Continues to damage grapes and peaches in Graham and Cochise Counties. Controls not effective. (Ariz. Coop. Sur.).

LEAFHOPPERS - NEW JERSEY - No sharpnosed species caught in traps in blueberry fields in Burlington and Atlantic Counties. (Ins.-Dis. Newsltr.). NEW MEXICO - Heavy populations feeding on apple foliage in small orchards in Albuquerque area, Bernalillo County. (Heninger). CALIFORNIA - Erythroneura sp. and Deltocephalus sonorus heavy on grapevines in Fresno, Fresno County. (Cal. Coop. Rpt.).

GRASSHOPPERS - CALIFORNIA - Trimerotropis pallidipennis adults medium on grape leaves in Fresno, Fresno County. (Cal. Coop. Rpt.) NEW MEXICO - Several species, mostly Melanoplus bivittatus (two-striped grasshopper) and M. differentialis (differential grasshopper), damaging fruit tree foliage in orchards near Pajarito, Bernalillo County. (Heninger).

PACIFIC SPIDER MITE (Tetranychus pacificus) - CALIFORNIA - Heavy populations damaging muscat grapevines in Denair, Stanislaus County. (Cal. Coop. Rpt.).

FIG SCALE (Lepidosaphes ficus) - CALIFORNIA - Heavy on fig leaves in Fresno, Fresno County. (Cal. Coop. Rpt.).

CURRANT FRUIT FLY (Epochra canadensis) - UTAH - Moderate to normal in black and golden currants throughout State. (Knowlton).

TRUCK CROP INSECTS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - NEW JERSEY - Building up on tomato and eggplant in central section. (Ins.-Dis. Newsltr.). MARYLAND - Larvae and adults scattered on over-ripe tomatoes in Worchester County. (U. Md., Ent. Dept.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - VIRGINIA - Check plots about 70 percent infested on Eastern Shore; damage noted on commercial potatoes in some areas. (Hofmaster, Aug. 19).

BLACK CUTWORM (Agrotis ipsilon) - RHODE ISLAND - Apparently this species injuring tubers in commercial potato fields in Exeter, West Kingston and North Kingstown, Washington County. Up to 20 percent of tubers unsaleable in some parts of field. (Sheehan, Mathewson).

HORNWORMS (Protoparce spp.) - NEW MEXICO - Damaging tomato foliage in gardens in Alameda area, Bernalillo County (Heninger); also problem in home gardens and commercial plantings in Las Cruces area, Dona Ana County. (Nielsen). UTAH - P. quinquemaculata (tomato hornworm) damaging some home gardens in Salt Lake County. (Knowlton).

A LEAF MINER - RHODE ISLAND - Unidentified lepidopterous larvae heavy on potato leaves in large commercial planting in Slocum, Washington County. (Stessel, Mathewson).

LEAFHOPPERS - CALIFORNIA - Adults and nymphs of Exitianus exitiosus heavy on peppers in Fresno, Fresno County. (Cal. Coop. Rpt.). UTAH - Empoasca filamenta moderately numerous on potatoes near harvest in Ogden-West Weber area, Weber County. (Knowlton). NORTH DAKOTA - Macrosteles fascifrons (six-spotted leafhopper) counts on potatoes range from about 2 per sweep in Grand Forks County to about 25 per sweep near Cando. (Thomasson).

TARNISHED PLANT BUG (Lygus lineolaris) - NORTH DAKOTA - Up to 5 per sweep noted on tomatoes near Mountain, Pembina County. (Thomasson).

PEPPER MAGGOT (Zonosemata electa) - NEW JERSEY - Total of 7 caught on 2 sticky board traps at Cedarville August 27. (Ins.-Dis. Newsltr.).

VINEGAR FLIES (Drosophila spp.). - NEW JERSEY - Average number per 3-inch slit by area as follows: Bridgeton 47, Salem 65, Swedesboro 100+, Hammonton 78, Burlington 72, Mercerville 100+ and Edinburg 36. (Ins.-Dis. Newsltr.).

CABBAGE LOOPER (Trichoplusia ni) - NEW YORK - Young larvae observed on crucifers and adults increased in light traps. (N.Y. Wkly. Rpt., August 23). DELAWARE - Common to numerous in various parts of State. (MacCreary, Woodall). MARYLAND - Light to moderate on cabbage in Queen Annes County and moderate on tomatoes in Worchester County. (U. Md., Ent. Dept.). VIRGINIA - Present on broccoli, kale, collards, turnips and mustard on Eastern Shore. Did not respond to treatment. (Hofmaster, Aug. 19). MICHIGAN - Only 3 adults taken in blacklight traps to date; main flight slow in arriving from south this year. (Newman, Tundevold, Emerick). ALABAMA - Heavy infestation of larvae in 10-acre tomato field in St. Clair County required controls. (Bagby et al.). WISCONSIN - Average of 2 larvae per plant feeding in commercial cabbage field in Columbia County; economic loss minimal. Cabbage in some gardens severely damaged. (Wis. Ins. Sur.). NEW MEXICO - Moderately heavy damage on outer leaves of cabbage noted near Estancia, Torrance County. (Coppock).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - Laying eggs on crucifers in central section. (N.Y. Wkly. Rpt., Aug. 23). NEW JERSEY - Light trap collections increasing. Growers warned to look for larvae on cole crops. (Ins.-Dis. Newsltr.). MARYLAND - Moderately abundant on cabbage in Queen Annes County. (U. Md., Ent. Dept.). VIRGINIA - Present on broccoli, kale, collards, turnips and

mustard on Eastern Shore. (Hofmaster, Aug. 19). NORTH CAROLINA - Plentiful on collards in Johnston County. (Wright). UTAH - Causing light to moderate damage to cabbage fields in central and northern sections. (Knowlton).

DIAMONDBACK MOTH (Plutella maculipennis) - NEW JERSEY - Light trap collections increasing; growers warned to look for larvae on cole crops. (Ins.-Dis. Newsltr.). VIRGINIA - This species and cutworms present on broccoli, kale, collards, turnips and mustard on Eastern Shore. (Hofmaster, Aug. 19).

WEBWORMS - VIRGINIA - Present on broccoli, kale, collards, turnips and mustard on Eastern Shore. (Hofmaster, Aug. 19). MARYLAND - Loxostege similalis (garden webworm) light on cabbage in Queen Annes County. (U. Md., Ent. Dept.)

HARLEQUIN BUG (Murgantia histrionica) - VIRGINIA - Damaging cabbage patch in Vansant area, Buchanan County. (Isakson, Abbott). NORTH CAROLINA - Numerous on collards in Johnston and Wake Counties. (Wright).

CABBAGE APHID (Brevicoryne brassicae) - NEW HAMPSHIRE - Severely curling and yellowing cabbage in 3 young plantings at Litchfield. (Sutherland). UTAH - Generally moderate in commercial plantings and sometimes severe in home gardens in central and northern sections. (Knowlton).

MEXICAN BEAN BEETLE (Epilachna varivestis) - SOUTH CAROLINA - Damage serious in Kershaw County and adjacent areas. (Linder, Lee, Aug. 24). NEW MEXICO - Adults and larvae common on pinto bean foliage in Estancia Valley, Torrance County (Coppock). Light to moderately heavy on beans in home and truck gardens near Pajarito and Albuquerque, Bernalillo County (Heninger).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - MARYLAND - Notching leaves of lima beans at Sudersville. (U. Md., Ent. Dept.).

GREEN CLOVERWORM (Plathypena scabra) - MICHIGAN - Larval numbers low on host crops in Gratiot County; ranged 0-3 per 25 feet of row in 3 fields of navy beans. (Newman).

THRIPS - NEW MEXICO - Very abundant, averaged over 35 adults and nymphs per plant, on onions near harvest in Estancia Valley, Torrance County. (Coppock). UTAH - Thrips tabaci (onion thrips) injury light in commercial fields in Davis County. (Knowlton).

ASPARAGUS BEETLE (Crioceris asparagi) - NEW MEXICO - Light to heavy numbers feeding on asparagus foliage in Pajarito and Albuquerque areas, Bernalillo County. (N.M. Coop. Rpt.).

MARGINED BLISTER BEETLE (Epicauta pestifera) - VIRGINIA - Severely attacking sugar beet plot in Greensville County. (Isakson, Jennings).

WESTERN YELLOW-STRIPED ARMYWORM (Prodenia praefica) - UTAH - Damaged beets at Fielding, Box Elder County. (Nye, Knowlton).

SQUASH BUG (Anasa tristis) - DELAWARE - Common on pumpkin-squash in Bridgeville area. (MacCreary, Woodall). CALIFORNIA - Adults locally heavy on squash vines in Fresno, Fresno County. (Cal. Coop. Rpt.).

SQUASH VINE BORER (Melittia cucurbitae) - OHIO - Infesting squash in 2 gardens at Canton, Stark County. (Sleesman).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - GEORGIA - Large number of adults in pumpkin blossoms in Spalding County. (Dupree).

LEAF MINER FLIES (Liriomyza spp.) - VIRGINIA - Rather numerous in most fall plantings of cucurbits on Eastern Shore; treatments necessary. (Hofmaster, Aug. 19).

AN OTITID FLY (Tritoxa flexa) - CALIFORNIA - Larvae heavy in pumpkin in Torrence, Los Angeles County. (Cal. Coop. Rpt.).

MELON APHID (Aphis gossypii) - DELAWARE - Present on pumpkin-squash in Bridgeville area. (MacCreary, Woodall). CALIFORNIA - Heavy in squash plantings in Fresno, Fresno County. (Cal. Coop. Rpt.).

A SWALLOWTAIL BUTTERFLY - NEW MEXICO - Heavy larval population damaging commercial dill planting near Pajarito, Bernalillo County. (Heninger).

A TORTOISE BEETLE - MARYLAND - Causing slight damage to sweetpotatoes in Worcester County. (U. Md., Ent. Dept.).

RASPBERRY CROWN BORER (Bembecia marginata) - MICHIGAN - First adult emergence of season in research plots in Berrien County occurred August 23; egg laying began August 24. (Howitt).

JAPANESE BEETLE (Popillia japonica) - NEW HAMPSHIRE - Adults damaging raspberry foliage at East Concord; ranged 0-6 per cane. (Sutherland).

TOMATO FRUITWORM (Heliothis zea) - NEW JERSEY - Activity increasing on lima beans. (Ins.-Dis. Newsltr.) VIRGINIA - Causing rather heavy damage to some late tomatoes and expected to damage fall snap beans and peppers on Eastern Shore. (Hofmaster, Aug. 19). COLORADO - Damaging tomato fields in western section with poor to fair controls. (Bulla). NEW MEXICO - A problem in tomatoes in Alameda area, Bernalillo County; damaged over 75 percent of green fruit in one garden. (Heninger). Damaging tomatoes in fields near Chamberino, Dona Ana County. (Gomez, Garcia).

LOOPERS (Trichoplusia spp.) - COLORADO - Difficulty in controlling heavy infestation on cabbage reported from Greeley area. (Urano). NORTH CAROLINA - Considerable spotty feeding in 2 sweetpotato fields in Johnston County. (Nielsen). Caused considerable injury to commercial tomatoes in Madison County this season. (Silver).

FALL ARMYWORM (Spodoptera frugiperda) - VIRGINIA - Present on broccoli, kale, collards, turnips and mustard and expected to damage snap beans and peppers on Eastern Shore. (Hofmaster, Aug. 19).

POTATO LEAFHOPPER (Empoasca fabae) - NEW HAMPSHIRE - Damaged unsprayed beans in southern section. (Sutherland). VERMONT - Damaging beans in all areas. (MacCollom, Aug. 23). VIRGINIA - Heavily damaging to late potatoes on Eastern Shore. (Hofmaster, Aug. 19). WISCONSIN - Buildup in few fields of late lima beans in Rock County required treatment. (Wis. Ins. Sur.). NORTH DAKOTA - Trace numbers noted in northeastern counties. (Schulz).

APHIDS - VERMONT - Prevalent on peppers. (MacCollom, Aug. 23). NEW MEXICO - Unspecified species very abundant on dill at Pajarito, Bernalillo County. Another species feeding on turnips in same area. (Heninger). DELAWARE - Myzus persicae (green peach aphid) common on peppers in Sussex County. (MacCreary, Woodall).

WHITE GRUBS - WISCONSIN - Unusual amount of damage to potatoes and strawberries noted in scattered areas. (Wis. Ins. Sur.).

FLEA BEETLES - MARYLAND - Heavy on radish and Chinese cabbage and moderately abundant on cabbage in Queen Annes County. (U. Md., Ent. Dept.). VIRGINIA - Present on broccoli, kale, collards, turnips and mustards on Eastern Shore. (Hofmaster, Aug. 19). NORTH DAKOTA - Epitrix cucumeris (potato flea beetle) averaged 4 per sweep in Grand Forks County and up to 10 per sweep in Pembina County. Damage to potato plants in northeastern counties of little economic importance. (Thomasson).

SPIDER MITES - NEW HAMPSHIRE - Tetranychus telarius (two-spotted spider mite) building up on new strawberry beds at Litchfield. T. mcdanieli found infesting raspberries at East Concord constitutes a new record for Merrimack County. (Sutherland). See CEIR 15(30):863 for first report from State. (ARS).

MARYLAND - Feeding of unspecified species reddened lima beans in Caroline County. (U. Md., Ent. Dept.). OKLAHOMA - Tetranychus spp. continue heavy damage in home gardens in many areas. (Okla. Coop. Sur.). UTAH - T. telarius damage to beans less severe than normal in northern section. (Knowlton).

TOBACCO INSECTS

FLEA BEETLES (Epitrix spp.) - OHIO - General infestation noted on tobacco in Adams County. Damage consists of numerous small holes in leaves; commonly observed in several fields of tobacco in county. Tobacco plants range up to 5 feet in height, and most of crop has been topped. Det. by P. Freytag. (Rose).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - WISCONSIN - Larvae observed feeding lightly on tobacco planting in Dane County. (Wis. Ins. Sur.).

BLACK CUTWORM (Agrotis ipsilon) - NORTH CAROLINA - Reported feeding on bottom leaves of tobacco on Madison COunty farm. (Wise, Mount).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - NORTH CAROLINA - Infestations remain high in cotton throughout State. (Robertson). SOUTH CAROLINA - Serious in fields where scheduled applications ceased. Square infestations as low as 0-5 percent in central part of State where growers remained on recommended spray schedule. (Cott. Ltr., Aug. 23). Adults ranged 0-10 per 100 squares in treated plots and averaged 20 per 100 squares in untreated plots in Florence area. Larval infestations in same area ranged 16-60 percent in treated plots and averaged 96 percent in untreated plots. Large numbers of adults seen in many fields. Lack of squares makes infestations difficult to determine. Applications still required in many late-planted fields to protect young cotton. (Taft et al., Aug. 25). TENNESSEE - Remains major problem on cotton in southern tier of counties as migration continues. Boll damage severe in large percent of fields; as many as 15 weevils found in one bloom in McNairy County. Counts no longer give clear picture of infestations as squares extremely scarce at this time. Some migrating weevils found north of Jackson, Madison County, and greater numbers expected as season progresses. Controls still necessary where bolls sufficiently numerous to attract migrating weevils. Heavy "hatch out" expected to continue in those fields receiving rain previous week. (Locke, Aug. 25). GEORGIA - Infestation ranged 72-94 percent in untreated field of cotton in Spalding County. (Beckham). Infestations heavy in Stewart and Webster Counties. (Dillard). ALABAMA - Populations high throughout State. Squares becoming scarce in southern and central areas of State, where cotton maturing and weevils continue to attack young bolls. (McQueen). MISSISSIPPI - Weevil infestation high in some fields in delta counties, but low infestations still found in many fields. (Pfrimmer et al., Aug. 26). LOUISIANA - Weevil infestations being controlled satisfactorily. Infestation in some fields not yet sufficiently high to justify controls. Most late-planted cotton will require protection until mid or late September and should be closely watched if not already treated. (Tynes, Aug. 23). Infestation in Madison Parish ranged 0-78 (average 16) percent in 151 fields; 2 fields showed no infestation. (Cleveland et al., Aug. 26). OKLAHOMA - Punctured squares ranged up to 90 percent in untreated fields in southwest area; usually averaged under 20 percent in treated fields. Counts range light to moderate in south central cotton-growing areas of State. Reported heavy in cotton in Choctaw County; counts light (2-10 percent) in Washita and Beckham Counties; ranged 5-30 percent in Grady County, 7-15 percent in east central area. Reported increasing in Payne County. Small, untreated field of cotton in Tulsa County 100 percent infested with adults numerous. (Okla. Coop. Sur.). TEXAS - Populations increased in Blacklands area as weevils concentrating in remaining fields of cotton. Weevils reported in increasingly widespread numbers in rolling plains. Remained light in most treated cotton below the Caprock in high plains area; however, punctured square and adult counts still high in few treated fields in Spur area. (Texas Coop. Rpt.).

BOLLWORMS (Heliothis spp., et al.) - NORTH CAROLINA - Infestations increased greatly during last 10 days; increase continues. (Robertson, Aug. 24). SOUTH CAROLINA - Generally, infestations appear on decline form highs of past few weeks. (Cott. Ltr., Aug. 23). Large adult populations present in many fields in Florence area and younger cotton will require protection. Larval infestation ranged 0.5-3 percent in treated plots and averaged 2 percent in untreated plots. Of adults taken in light trap., 1,112 determined as H. zea (bollworm) and 28 as H. virescens (tobacco budworm). (Taft et al., Aug. 25). TENNESSEE - Activity increased throughout the western cotton-growing area of State, with heaviest infestations in those fields where controls for boll weevil (Anthonomus grandis) were erratic earlier in season. Controls for bollworms justified in many fields at this time; growers should check rank, succulent fields regularly. Fields that have "cut out" unlikely to attract moths at this time. (Locke, Aug. 25). GEORGIA - Larval counts increasing in Spalding County cotton; adult numbers in light traps also increasing. (Beckham). ALABAMA - Larval numbers increasing steadily; counts extremely high in Montgomery, Talladega, Covington, Jackson and several other counties. (McQueen). MISSISSIPPI - Heavy infestations appearing in many fields that are still attractive in delta counties; many eggs and some small larvae observed. (Pfrimmer et al., Aug. 26).

LOUISIANA - Egg laying heavy on cotton in Shreveport and Saint Joseph areas. Growers should watch for increase in larval populations. Beneficial insects extremely low in most fields. (Tynes, Aug. 23). Infestations increased considerably in some younger cotton in Madison Parish. In some areas, extra heavy applications have been necessary to obtain effective control. Damaged squares ranged 0-13 (average 3.6) percent in 140 fields checked. Total of 832 H. zea and 35 H. virescens taken in light trap. (Cleveland et al., Aug. 26). MISSOURI - H. zea larvae range 1-23 and eggs 1-22 per 100 terminals in 42 percent of 1,074 fields checked in southeast area. Treatments applied to 1,112 acres in 34 of these fields. (Jones). OKLAHOMA - Egg counts light to moderate in all cotton-growing areas. Counts seldom range over 30 percent. Larval infestations range 3-5 percent in Jackson County. (Okla. Coop. Sur.). TEXAS - H. zea infestations not general in high plains area, although light, local populations present in some areas. Larvae increasing in rolling plains area generally, with moderate to heavy populations present in Wilbarger, Baylor, Haskell, Foard and Knox Counties. Generally light infestations reported from trans-Pecos area. Damage to cotton ranged light to heavy within local areas of Brazos River bottom area. (Texas Coop. Rpt.). NEW MEXICO - Damage by H. zea ranged light to moderate in Dona Ana County cotton. (Gomez, Garica). Infestations light in fields near Lordsburg, Hidalgo County. (Hare).

ARIZONA - Scattered, heavy infestations of H. zea required controls in Maricopa and Pinal Counties. Light infestations continue to be found in Graham, Greenlee and Cochise Counties. (Ariz. Coop. Sur.). CALIFORNIA - Populations variable throughout valley in Kern County; generally low, although larvae ranged 10-15 per 100 plants in occasional field. Populations appear highest in Rosedale and Delano areas of Kern County, in southeastern Tulare County region and in Hanford area of Kings County. Light populations apparent in Dos Palos area. (Leigh, Aug. 19).

CABBAGE LOOPER (Trichoplusia ni) - GEORGIA - Leaf feeding damage increasing on cotton in Spalding County. (Beckham). ALABAMA - T. ni and Pseudoplusia includens present on cotton in Montgomery, Talladega, Covington, Jackson and several other counties. (McQueen). MISSISSIPPI - Small larvae present in sizeable numbers on cotton in many fields in delta counties. Control by disease evident in some fields. Moths continue in great numbers. (Pfrimmer et al., Aug. 26). LOUISIANA - Light to moderate infestations reported on cotton and soybeans in St. Landry Parish. (Tynes, Aug. 23). Treatments necessary in few fields in Madison Parish. (Cleveland et al., Aug. 26). ARIZONA - Light to moderate numbers noted in cotton in Yuma, Maricopa and Pinal Counties. Some leaf damage noted but few controls necessary. (Ariz. Coop. Sur.). CALIFORNIA - Eggs and larvae evident in most cotton checked throughout valley in Kern County, with apparent population increase noted in Corcoran area. (Leigh, Aug. 19).

BEET ARMYWORM (Spodoptera exigua) - LOUISIANA - Few larvae noted in field of cotton in Madison Parish. (Cleveland et al., Aug. 26). CALIFORNIA - Scattered, heavy populations evident in Tulare Lake area and light infestations evident in valley in Kern County. In many instances, larvae feeding on squares and bolls in much the same manner as bollworms. (Leigh, Aug. 19).

LEAF ROLLER MOTHS - CALIFORNIA - Larvae of Platynota stultana evident in many fields of cotton in Kern County and Udea profundalis (false celery leaf tier) common in Corcoran area of Kings and Tulare Counties. P. stultana larvae feeding largely on terminal areas of plants attacking bracts and small leaves. U. profundalis more abundant in lower portions of plants. (Leigh, Aug. 19).

COTTON SQUARE BORER (Strymon melinus) - OKLAHOMA - Light infestations reported on cotton in Greer and Beckham Counties. (Okla. Coop. Sur.).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Larvae and exit holes found in light to moderate numbers in Florence area of Pinal County, Mesa area of Maricopa County and in Graham County. (Ariz. Coop. Sur.). TEXAS - Populations heavy on cotton in local areas of Pecos County. (Neeb).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Leaf damage becoming evident on cotton from light but increasing populations in Yuma Valley of Yuma County. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Counts per 25 sweeps in Dona Ana County cotton ranged 1-6 adults and nymphs. (Gomez, Garcia). ARIZONA - Heavy populations continue to damage cotton in Maricopa and Pinal Counties and in areas of Pima County. Light to moderate numbers caused light damage to cotton in Graham, Greenlee, Cochise and Yuma Counties. (Ariz. Coop. Sur.). CALIFORNIA - Populations high in many fields of cotton in Kern County. Growers urged to check for buildups following last control applications. Severe damage to top crop squares evident in many fields. Controls should continue at least into early September where growers expect to retain squares for late boll set. (Leigh, Aug. 19).

PLANT BUGS - MISSOURI - Adults and nymphs of several species ranged 1-37 per 100 plants in 73 percent of 1,074 fields scouted in southeast area. (Jones). TEXAS - Psallus seriatus (cotton fleahopper) populations decreased in high plains area and no more damage occurring except in few local areas. Some young cotton in rolling plains area still being damaged, but P. seriatus populations decreased greatly. Some damage reported from Reagan County in trans-Pecos area. (Texas Coop. Rpt.). NEW MEXICO - Adults of Spanogonicus albofasciatus (a black cotton fleahopper) ranged 3-7 per 25 sweeps in cotton checked in Dona Ana County. (Garcia, Gomez).

STINK BUGS - NEW MEXICO - Light, spotted populations causing minor damage to cotton in Dona Ana and Luna Counties. (N.M. Coop. Rpt.). ARIZONA - Euschistus spp. and Thyanta spp. causing moderate damage to cotton in some areas of Yuma and Maricopa Counties. Chlorochroa sayi (Say stink bug) found in light to moderate numbers in cotton in Graham, Cochise and Greenlee Counties; damage appears light. (Ariz. Coop. Sur.).

APHIDS - SOUTH CAROLINA - Only few scattered, serious infestations reported in cotton. (Cott. Ltr., Aug. 23). GEORGIA - Heavy buildup noted on cotton in plots at Experiment, Spalding County, after application of control treatments. (Beckham). LOUISIANA - Infestations in fields previously untreated still require controls. (Tynes, Aug. 23). NEW MEXICO - Aphis gossypii (cotton aphid) ranges light to heavy on foliage of cotton in many fields checked in Dona Ana County. Several growers treated. (Garcia, Gomez).

THRIPS - CALIFORNIA - Abundant on cotton plants in Tulare Lake area of Kern County and in western portions of Fresno County. Do not appear to be damaging crop significantly. (Leigh, Aug. 19).

GRASSHOPPERS - NEW MEXICO - Causing some damage to cotton foliage in fields north of Lordsburg, Hidalgo County. Averaged 8 per square yard in weeds along field margins and 2 or less within fields of cotton. (Hare).

SPIDER MITES - SOUTH CAROLINA - Although present on cotton in many areas, populations not as serious threat to reduction of yields as few weeks earlier. (Cott. Ltr., Aug. 23). TENNESSEE - Weather conditions in cotton-growing area continue ideal for increase and some serious damage is resulting throughout area where controls have not been applied. (Locke, Aug. 25). GEORGIA - Infestations range from none to very light in cotton in Spalding, Jenkins, Decatur and Grady Counties. (Beckham, Dekle, Birdsong). MISSISSIPPI - Infestations appear static; apparently decreasing in some fields due to frequent showers of past 2 weeks. Populations continue to increase, however, in some drier areas. (Pfrimmer et al., Aug. 26).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BLACK HILLS BEETLE (Dendroctonus ponderosae) - SOUTH DAKOTA - Outlook for control best in several years owing to concentrated effort of State and Federal agencies and private landowners. During 1965 season, U.S. Forest Service conducted operational ground surveys on 600,000 acres. Treatment covered 520,000 acres in concentrated control efforts. Total of 13,850 infested trees treated by cutting, burning and chemicals. Controls designed to reduce incidence to one tree per 100 acres. Yearly biological evaluation of potential brood to develop shows low count indicating population decreasing. No control program planned for coming season on Black Hills National Forest. (Rehfeld).

PINE ENGRAVER (Ips pini) - NEVADA - Heavy in pine slash piles in Incline Village area, Washoe County, and in Snyder Meadows area, Douglas County. (Bechtel, Christner, Martinelli).

WHITE-PINE WEEVIL (Pissodes strobi) - MINNESOTA - Light infestations scattered on white and jack pines in east central district; heavy on red pine plantation in Duquette area. (Minn. Ins. Rpt.).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - MINNESOTA - Damaging in red pine plantation in Duquette area. (Minn. Ins. Rpt.). OHIO - Two additional reports of infestations on pines noted in Lucas County. (Jones).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - NEW YORK - Continues problem on 2 and 3 needle pines in Suffolk County. (N.Y. Wkly. Rpt., Aug. 23).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - MINNESOTA - Feeding completed in east central district; numerous roadside jack pines killed in Pine City area. (Minn. Ins. Rpt.).

WHITE-FIR NEEDLE MINER (Epinotia meritana)- CALIFORNIA - Pupae and adults heavy on Abies magnifica in Fish Camp area, Sierra National Forest, Madera County. (C. Sikora, USFS).

CHERMIDS (Chermes spp.) - NEW JERSEY - Controls recommended for overwintering generations of C. abietis (eastern spruce gall aphid) and C. cooleyi (Cooley spruce gall aphid). (Ins.-Dis. Newsltr.)

LARCH SAWFLY (Pristiphora erichsonii) - WASHINGTON - Caused light to heavy defoliation of western larch on about 2,800 acres near Sheep Butte on Yakima Indian Reservation, Yakima County. This is a new county record. (P. W. Orr, USFS). NEW YORK - Noted in plantation north of Utica, Oneida County. (N.Y. Wkly. Rpt., Aug. 23).

A TORTRICID MOTH (Argyrotaenia cockerellana) - NEBRASKA - Damaging juniper in Hastings, Adams County. (Roselle).

JUNIPER SCALE (Diaspis carueli) - VIRGINIA - Very heavy on juniper in Accomack County. (Pierce, Aug. 19).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Moderate to heavy on evergreens in northeast, central and west central areas and in Haskell County. Light in Hughes County. (Okla. Coop. Sur.) TEXAS - Widespread infestations in north central area on wide variety of trees and shrubs. (Turney). ALABAMA - Heavy on cedar and some pines in isolated areas of Geneva County. (Johnson). VIRGINIA - Infested Hetzi juniper in home yard at Wallops Island, Accomack County. (Pierce, Aug. 19). NEW YORK - Building bags on arborvitae in Nassau County. (N.Y. Wkly. Rpt., Aug. 23).

FALL WEBWORM (Hyphantria cunea) - KANSAS - Infestation heaviest of past 12 years; very abundant in trees in many areas of State, particularly on walnut. (Knutson, Simpson). SOUTH DAKOTA - Caused some defoliation of walnut trees on Newton Hills

State Park, Lincoln County. (Jones). MINNESOTA - Silken nests on ends of branches of many ornamentals very evident in many parts of Metropolitan Minneapolis-St. Paul. Especially evident on willows. (Minn. Ins. Rpt.). OHIO - Webbing of deciduous trees in counties in southwest area, in Franklin County, and in central areas indicates almost statewide activity during past week. (Rose). RHODE ISLAND - Apparently no problem in State this season. (Veilleux, Mathewson).

WALNUT CATERPILLAR (Datana integerrima) - WISCONSIN - Defoliation of walnut trees becoming evident in portions of Walworth and Green Counties. Some trees nearly one-third defoliated by half-grown larvae. (Wis. Ins. Sur.).

BOXELDER LEAF ROLLER (Gracilaria negundella) - CALIFORNIA - Heavy on boxelders in Madera, Medera County. (Cal. Coop. Rpt.).

AMERICAN PLUM BORER (Euzophera semifuneralis) - NEW YORK - Larvae damaging bark of London planetrees in Suffolk County; may kill trees. (N.Y. Wkly. Rpt., Aug. 23).

GYPSY MOTH (Porthetria dispar) - MICHIGAN - No males collected to date this season; trap removal began August 23. (Ring).

MOURNING-CLOAK BUTTERFLY (Nymphalis antiopa) - NEW YORK - Larvae defoliating black willows along shore of Hinkley Reservoir in Oneida County. (N.Y. Wkly. Rpt., Aug. 23). UTAH - Larvae defoliating branches of weeping and black willows at Cleveland, Emery County. (Knowlton). IDAHO - Larvae attacking elms and willows at Mountain Home. (Edwards).

NYMPHALID BUTTERFLIES - OKLAHOMA - Several species ranged moderate to heavy on ash and other trees in Texas and Cimarron Counties. (Okla. Coop. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEVADA - Damaged elms in Tonopah, Nye County, week ending July 30; larvae and adults noted. This is new county record. (Easton, Cooney, Zoller). NEW MEXICO - Light on American elms at Valencia, Valencia County. All stages ranged light to heavy on Chinese elms at Pajarito, Bernalillo County. (Heninger). TEXAS - Heavy over wide area of State on elms. (Texas Coop. Rpt.). OKLAHOMA - Heavy on elms in nearly all areas of State. (Okla. Coop. Sur.). KANSAS - Migrating from elms into homes for hibernation in most areas of State. (Thompson). NEBRASKA - High populations in southeastern section causing concern. (Roselle).

TWIG GIRDLERS - MINNESOTA - Activity noticeable in east central district; girdled branch tips falling. (Minn. Ins. Rpt.). KANSAS - First felled elm twigs of season as result of infestations of Oncideres cingulata (twig girdler) noted in Manhattan. Few dozen twigs normally drop this time of year. (Simpson).

TWIG PRUNER (Elaphidion villosum) - MISSOURI - Damaging various shade trees in several areas. (Wkly. Ins. Rpt.).

HICKORY BARK BEETLE (Scolytus quadrispinosus) - NEW YORK - Reported on north shore of Suffolk County. Twig damage and drought killed some trees. (N.Y. Wkly. Rpt., Aug. 23).

BIRCH LEAF MINER (Fenusa pusilla) - OHIO - Heavy in Coshocton County. (Ellis).

SOFT SCALES - NEW YORK - Pulvinaria innumerabilis (cottony maple scale) continues prevalent on silver maples in Suffolk County. (N.Y. Wkly. Rpt., Aug. 23). NEW JERSEY - Control of crawlers of Toumeyella liriodendri (tuliptree scale) and Neolecanium cornuparvum (magnolia scale) recommended. (Ins.-Dis. Newsltr.).

NORWAY-MAPLE APHID (Periphyllus lyropictus) - UTAH - Continues causing honeydew deposits on many maple trees about Logan and Providence, Cache County, and at Brigham City, Box Elder County. (Knowlton).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Heavy on flowering crab apples in nursery planting at Albuquerque, Bernalillo County. (Heninger).

BEECH SCALE (Cryptococcus fagi) - NEW JERSEY - Heavy in many parts of northern area on beech. Crawlers now active; will continue into September. Controls recommended. (Ins.-Dis. Newsltr.).

WEEVILS - UTAH - Apion longirostre (hollyhock weevil) damaging at Providence, River Heights and Logan, Cache County. (Knowlton, Hanson). NEVADA - Brachyrhinus meridionalis adults causing heavy leaf damage to peony, privet and lilac in Reno, Washoe County. (Bechtel). RHODE ISLAND - Adults of B. sulcatus (black vine weevil) still found in nurseries statewide. (Veilleux, Mathewson).

BLISTER BEETLES - IDAHO - Epicauta puncticollis continues nuisance in Boise; eating gladiolus petals. (Peterson). NEVADA - Lytta sp. adults medium and damaging privet hedge in Verdi, Washoe County. (Ting).

LEAF BEETLES - UTAH - Diabrotica undecimpunctata tenella less abundant and damaging than normal to garden flowers in "Dixie" area, Washington County. (Knowlton). CALIFORNIA - Larvae and adults of Lema trilineata trivittata heavy on Jerusalem-cherry plants locally in Fresno, Fresno County. (Cal. Coop. Rpt.). OREGON - Adults and larvae of Metriona bicolor (golden tortoise beetle) heavy on wild and cultivated morning-glories in Roseburg, Douglas County. (Vertrees).

A FALSE POWDER-POST BEETLE (Amphicerus cornutus) - NEVADA - Adults medium on roses in Henderson, Clark County. (Nichols).

ARMORED SCALES - MARYLAND - Chrysomphalus obscurus (obscure scale) heavy on oak in Baltimore County. Aspidiotus perniciosus (San Jose scale) destructive to pyracantha this summer at College Park, Prince Georges County. Rapid spread of Unaspis euonymi (euonymus scale) observed on shrub during past 3 weeks in College Park. (U. Md., Ent. Dept.). VIRGINIA - Lepidosaphes camelliae (camellia scale) infested camellias in greenhouse near Wallops Island, Accomack County. (Pierce, Aug. 19). NORTH CAROLINA - U. euonymi infested euonymus in Wake County. (Robertson). OHIO -Chionaspis gleditsiae minor on trunk of honey-locust in Montgomery County. (Dozer). CALIFORNIA - Diaspis cocos medium on cocos palm nursery stock in Encinitas, San Diego County. L. ulmi (oystershell scale) heavy locally on willows in Napa, Napa County. (Cal. Coop. Rpt.).

GRAPE MEALYBUG (Pseudococcus maritimus) - WISCONSIN - Heavy on Taxus capitata in nursery in Green County. (Wis. Ins. Sur.).

APHIDS - CALIFORNIA- Chaitophorus salicicola medium on willows in San Juan Capistrano, Orange County. (Cal. Coop. Rpt.). NEW MEXICO - Cinara tujafilina minor problem on arborvitae in Alameda area, Bernalillo County. (Heninger). UTAH - Pterocomma sp. extremely numerous on bark of weeping and black willows at Cleveland, Emery County. (Knowlton, Day).

LACE BUGS - NEW YORK - Damaging andromeda in Suffolk County. (N.Y. Wkly. Rpt., Aug. 23). DELAWARE - Numerous and injurious to firethorn in northern New Castle County. (MacCreary, Woodall). OHIO - Corythucha spp. damaged landscape planting of cotoneaster at Mount Vernon, Knox County. (Walker). MICHIGAN - Corythucha ciliata (sycamore lace bug) adults and nymphs numerous on some ornamental sycamores in Ingham County; feeding injury caused discoloring. (Dowdy). UTAH - Unspecified species less numerous on leaves of choke cherry and oak in Summit County than in 1962. (Knowlton).

AZALEA CATERPILLAR (Datana major) - NORTH CAROLINA - Infested azaleas in Columbus and Richmond Counties. (Swain, Flynt, Robertson). GEORGIA - Heavy on azaleas in Taylor County. (Reddish).

BRISTLY ROSE-SLUG (Cladius isomerus) - CALIFORNIA - Larvae heavy on Tropicana rose-bushes in Concord, Contra Costa County. (Cal. Coop. Rpt.).

SPIDER MITES - NEW MEXICO - Ranged light to heavy on ornamental pines and junipers in Alameda area, Bernalillo County. (Heninger). OKLAHOMA - Tetranychus spp. very heavy on ornamentals in Payne County; moderate in Cleveland County. (Okla.) Coop. Sur.).

AN ERIOPHYID MITE (Eriophyes thujae) - OHIO - Infestation general throughout block of arborvitae in nursery in Montgomery County. (Dozer).

A FALSE SPIDER MITE (Brevipalpus essigi) - CALIFORNIA - Medium on fuschia plants in East Palo Alto, San Mateo County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - OREGON - Aedes dorsalis and A. nigromaculis heavy at White City and Medford Airport, Jackson County. High populations possibly due to abundant water supply for irrigation in area. Culex tarsalis also heavy in Jackson County irrigation runoff areas. (Moore, Miller). NEVADA - Adults of A. nigromaculis heavy in Gardnerville area, Douglas County. A. dorsalis adults heavy in Fallon area, Churchill County. (Cooney). UTAH - Mosquitoes continue troublesome in Corinne-Bear River area of Box Elder County and western Logan-Amalga-Cornish area of Cache County. (Knowlton). WYOMING - Adult activity of several species very light in western area. (Marks). Adults continue annoyance to man and animals in Albany County. (Fronk). OKLAHOMA - Adults of several species moderate in most of eastern third of State. Species taken at lights in Goodwell, Texas County, include Aedes sollicitans (salt-marsh mosquito), Anopheles quadrimaculatus (common malaria mosquito), Culex tarsalis and Psorophora confinnis. A. sollicitans dominant species. Collection in Texas County is a new county record for A. quadrimaculatus. (Okla. Coop. Sur.).

MINNESOTA - Light trap collections by Metropolitan Mosquito Control District from 16 traps week ending August 21 totaled 11,530 females; 8,861 Aedes vexans, 607 Anopheles walkeri and 506 Culex tarsalis. Only 125 larval collections made; Aedes vexans taken in 17, C. territans in 46, C. tarsalis in 33, and C. salinarius in 29. In 29, 15-minute bite collections 274 females taken; 246 were A. vexans with remainder distributed among 10 species. In 400, 5-minute day-time bite collections, 2,991 females taken; Aedes vexans 2,169, A. trivittatus 173, A. cinereus and A. excrucians 130, A. stimulans 90, A. triseriatus 89 and A. fitchii 81. Non-Aedes spp. accounted for only 26 specimens. Rains August 21, 24 and 25 sufficiently heavy to start moderate brood of A. vexans. (Minn. Ins. Rpt.). WISCONSIN - Some increase in past week although activity and density scattered. High numbers in Jackson, Barron and La Crosse Counties; much more abundant on east side of Madison than on west. Aedes sp. most important biter. (Wis. Ins. Sur.). KANSAS - Light trap collections very low; few Culex tarsalis present. (Pitts).

FACE FLY (Musca autumnalis) - UTAH - Survey revealed infestations at Nibley and Wellsville, Cache County. Collected at Brigham City, Box Elder County; Roy, Weber County; and Clinton, Davis County. Box Elder, Weber and Davis are new county records. Det. confirmed by W. J. Hanson. (Knowlton). WISCONSIN - Problem in Wood, Price, Langlade and Grant Counties. Activity not unusually pronounced in these areas, however. (Wis. Ins. Sur.). MARYLAND - Ranged up to 15 per head on 4 herds of dairy cattle in Frederick County. (U. Md., Ent. Dept.).

HOUSE FLY (Musca domestica) - WISCONSIN - Abundant in scattered areas of State. Most plentiful to date is some instances. (Wis. Ins. Sur.). OKLAHOMA - Heavy in residential areas in McCurtain County; moderate in Texas County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - WYOMING - Adult activity decreasing rapidly in western area; ranged 0-100 (averaged 40) per animal. (Marks). KANSAS - Continues at high level in Riley County. (Pitts). OKLAHOMA - Heavy on cattle

in Garvin and Haskell Counties; moderate in Hughes, Cleveland and Mayes Counties; light (50 per head) in Noble County. (Okla Coop. Sur.). MICHIGAN - Adult numbers range low to high in middle area on beef herds; controls easy with backrubbers or insecticide-mineral mixes. (Dowdy). MARYLAND - About 150 per head in Frederick County dairy herd, zero on 3 other herds. (U. Md., Ent. Dept.).

STABLE FLY (Stomoxys calictrans) - WISCONSIN - Reported as number-one pest of cattle in scattered areas of State. (Wis. Ins. Sur.). KANSAS - Continues at high level in Riley County. (Pitts). UTAH - Average numbers noted about corrals in Nibley-Wellsville area of Cache County. (Knowlton). MARYLAND - Ranged up to 6 per head on 4 dairy herds in Frederick County. (U. Md., Ent. Dept.).

CATTLE GRUBS (Hypoderma spp.) - SOUTH DAKOTA - Treatment urged for cattle placed in feedlots. (Jones).

HORSE FLIES (Tabanus spp.) - WYOMING - Adults only occasionaly noted in western area. (Marks). OKLAHOMA - Moderate on cattle in Haskell County. T. sulcifrons ranged 2-3 per head on cattle in Noble County. (Okla. Coop. Sur.).

A SNIPE FLY - ALABAMA - Heavy in cotton fields, orchards and around homes on shrubbery; caused considerable complaints from growers and homeowners in Chambers, Clay, Bibb, Tuscaloosa and other counties. (Stewart et al.).

A SOLDIER FLY (Hermetia illucens) - NEW JERSEY - Numerous adults, probably this species, annoying poultryman near Newfield; larvae destroying other dipterous larvae in poultry manure. (Ins.-Dis. Newsltr.).

WASPS - OREGON - Yellow jackets very annoying to Medford, Jackson County, residents; apparently attracted to outdoor cooking. (Berry). UTAH - Boy received 3 stings from paper-making species at Logan, Cache County. (Knowlton). WISCONSIN - Vespa spp. increasing and nuisance in several picnic areas. Interrupted field crews several times in Iowa County. (Wis. Ins. Sur.). NORTH CAROLINA - Vespa crabro germana (giant hornet) noted in Johnston County. (Garris, Mount). MARYLAND - Numerous complaints concerning Vespula maculata (bald-faced hornet) nests near homes in College Park area, Prince Georges County. (U. Md., Ent. Dept.). NEW YORK - A problem to homeowners in Suffolk County. (N.Y. Wkly. Rpt., Aug. 23). RHODE ISLAND - Annoying homeowners in all parts of State. (Veilleux, Mathewson).

SADDLEBACK CATERPILLAR (Sibine stimulea) - OHIO - Infested red maple in yard in Holmes County. Caused itching welts on children. (Ivins, Rose).

MASKED HUNTER (Reduvius personatus) - UTAH - Several specimens noted in home at Vernal, Uintah County; injured children. (Lindsay, Knowlton).

TICKS - OKLAHOMA - Ambylomma americanum (lone star tick) heavy on cattle in Choctaw, McCurtain and Haskell Counties. (Okla. Coop. Sur.). NEVADA - Rhipicephalus sanguineus (brown dog tick) heavy in apartment in Las Vegas, Clark County. (Zoller). UTAH - Unspecified species taken from child near Cedar Breaks, Iron County. (Knowlton, Higbee).

FLEAS - NORTH CAROLINA - Infested caged squirrels in Wake County. (Mount). RHODE ISLAND - Ctenocephalides spp. heavy in houses at Kingston, Washington County, and Scituate, Providence County. (Mathewson, King).

HOUSEHOLD AND STRUCTURAL INSECTS

WEEVILS - CALIFORNIA - Brachyrhinus rugosostriatus invading home in Berkeley, Alameda County. (Cal. Coop. Rpt.). WISCONSIN - Continued invasion into homes by B. ovatus (strawberry root weevil) reported. Calomycterus setarius apparently not so noticeable this season as in 1964 compared with B. ovatus. (Wis. Ins. Sur.). VIRGINIA - Cyrtepistomus castaneus (Asiatic oak weevil)

abundant and attracted to lights; entering homes in many parts of State. Collected in Montgomery, Dickenson, Henry and Pulaski Counties. (Isakson). NORTH CAROLINA Sitophilus oryzae (rice weevil) abundant in Tyrrell County. (Culbertson, Scott).

DERMESTID BEETLES - NEVADA - Trogoderma parabile larvae light in package of dietary crackers in home in Las Vegas, Clark County. (Zoller). UTAH - Infesting flour and cereals in home near Salt Lake City. (Knowlton).

ELM LEAF BEETLE (Galerucella xanthomelaena) - VERMONT - Now entering buildings. (MacCollom, Aug. 23).

FALSE CHINCH BUGS (Nysius spp.) - IDAHO - N. ericae nymphs very numerous and nuisance in new housing development in Twin Falls. Numerous in Cassia County. (Bodily, Youtz). NEVADA - Nysius sp. nymphs invading buildings in Gardnerville, Douglas County, and in southern Washoe County. (Stitt, Uriarte, Weaver). UTAH - N. ericae extremely numerous about and invading homes locally in Magna, Salt Lake County. (Burningham, Knowlton).

CRICKETS - WISCONSIN - Continued activity by various species in and around homes. (Wis. Ins. Sur.). OKLAHOMA - Gryllus spp. numerous in and around buildings in several parts of State. (Okla. Coop. Sur.).

EARWIGS - NEW YORK - Numbers decreasing in Nassau County. (N.Y. Wkly. Rpt., Aug. 23).

SUBTERRANEAN TERMITES (Reticulitermes spp.) - UTAH - R. hesperus (western subterranean termite) infesting building on campus of Utah State University, Logan, Cache County. (Nye, Knowlton). R. hesperus infested large school building at Logan. (Knowlton). WISCONSIN - First report of activity of R. flavipes (eastern subterranean termite) in large degree this season in La Crosse County. (Wis. Ins. Sur.).

CARPENTER ANTS (Camponotus spp.) - GEORGIA - Infested home in Rabun County. (Maney).

NEW-HOUSE BORER (Arhopalus productus) - IDAHO - Unusually abundant in Moscow area; adults attracted to lights and entering homes. (Barr).

STORED-PRODUCT INSECTS

TOBACCO MOTH (Ephestia elutella) - NORTH CAROLINA - Heavy on tobacco in 2 packinghouses in Wake County and in packinghouse in Beaufort County. (Robertson, Scott).

BENEFICIAL INSECTS

ALKALI BEE (Nomia melanderi) - UTAH - Emerged later than normal in central area; less numerous than normal in several areas. (Bohart, Knowlton).

Beneficial Insects in Arkansas - Beneficial insects checked in all soybean fields surveyed. DAMSEL BUGS (Nabis spp.) and BIG-EYED BUGS (Geocoris spp.) continue as most important predators in soybeans. Numbers low recently in areas where cotton treated; Geocoris spp. found at rate of 2.6 adults and 14.9 nymphs to 30 row feet compared with 3 and 10.7 respectively previous week. Third consecutive week that nymphs of Geocoris spp. increased. In 3 fields surveyed on Rice Branch Experiment Station, Arkansas County, nymphs averaged 40 on 30 row feet. Nabis spp. declined from average of 8.1 previous week to 7.5 this week. (Ark. Ins. Sur.).

Beneficial Insects in Cotton - CALIFORNIA - BIG-EYED BUGS (Geocoris spp.) and MELYRID BEETLES (Collops spp.) very abundant in cotton in Five Points area. ANTHOCORID BUGS (Orius spp.) extremely abundant in some fields in Corcoran area. Elsewhere beneficial insects variable from field to field. (Leigh, Aug. 19).

DAMSEL BUGS (Nabis spp.) - WYOMING - Adults and nymphs numerous in alfalfa in western area; averaged 42 per 100 sweeps. (Marks).

LADY BEETLES - WYOMING - Adults of several species averaged 42 per 100 sweeps in western area alfalfa. (Marks).

A PREDACEOUS MITE - TEXAS - Heavy numbers noted on grasshoppers in Guadalupe County. (Texas Coop. Rpt., Massey).

A SCOLIID WASP (Scolia dubia) - SOUTH CAROLINA - Adults flying over lawn in McCormick County. Det. by F. McAlister. (Bonnette, Aug. 24).

CORRECTIONS

CEIR 15(20): 490 - A GNAT (Scatopse fuscipes) should read A SCATOPSID FLY.

CEIR 15(23): 587 - A GNAT (Scatopse sp.) should read A SCATOPSID FLY.

CEIR 15(31): 858 - MEXICAN FRUIT FLY (Anastrepha ludens) - MEXICO - Line 4 should read "... 3,144 sterile marked flies ..."

CEIR 15(35): 989 (HIGHLIGHTS) - First paragraph, line 6: (p. 922) should read (p. 992).

CEIR 15(35): 989 (DETECTION) - Line 3 should read "... and FACE FLY (Musca autumnalis) in Idaho (p. 1013). ..."

CEIR 15(35): 1016 - ADDITIONAL NOTES - KANSAS - Lines 6 and 7 should read "... Some breaking of stalks reported in Hays, Ellis County, as result of infestation by FALL ARMYWORM (Spodoptera frugiperda); may also be associated ..."

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL - blacklight, I - incandescent, MV - mercury vapor, O - other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (gray cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege stellalis (garden webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera ornina (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARKANSAS																								
Hope 8/18-25				1						0	5					0				4				
Kelso 8/18-25				0						16	222					0				0				
Fayetteville 8/18-25				2						9	100					2				0				
ILLINOIS (County)																								
Champaign 8/20-26	61-80	2.93		17							54				21	26	47		2	48		20		
INDIANA (Counties)																								
Posey 8/14-20			BL	16			29				188				3355	0		14	23	29				
Vanderburgh 8/14-20			BL	21			3				76				82	9		0	10	51				
Harrison 8/14-20			BL	32			10				50				19	8		11	20	20				
Dubois 8/14-20			BL	11			24				29				20	6		1	19	74				
Sullivan 8/14-20			BL	1			1				4				40	0		17	7	14				
Greene 8/14-20			BL	10			23				23				59	2		25	18	9				
Jackson 8/14-20			BL	34			14				34				21	1		30	49	39				
Switzerland 8/14-20			BL	119			20				29				9	33		15	1	64				
Franklin 8/14-20			BL	13			12				2				36	1		8	20	12				
Parke 8/14-20			BL	4			14				0				33	2		15	19	17				
Shelby 8/14-20			BL	16			8				1				20	7		13	3	24				
Hamilton 8/14-20			BL	7			6				11				60	0		16	30	15				
Tippecanoe 8/14-20			BL	29			10				37				43	5		4	1	16				
Wells 8/14-20			BL	9			10				1				53	5		2	2	21				
Jasper 8/14-20			BL	7			7				1				34	1		9	7	10				
Allen 8/14-20			BL	4			1				0				14	2		0	0	24				
Lake 8/14-20			BL	0			3				0				3	0		0	0	13				
St. Joseph 8/14-20			BL	10			2				4				528	8		2	2	22				
Lagrange 8/14-20			BL	10			2				1				175	4		0	4	15				
MARYLAND																		spp.						
Centreville 8/10-24			BL	38							566				362	12		30		35		37		
Snow Hill 8/17-23			BL	67							607				437	83		50		214		131	194	
MASSACHUSETTS																								
East Wareham 8/21-27			2BL								4							1		5				
MICHIGAN (Counties)																								
Berrien 8/17-23			BL	11											27	4	3			17				
Wayne 8/17-23			BL	4											28	6	0			4				
Branch 8/17-23			BL	7											37	9	5			12				
Jackson 8/17-23			2BL	8											49	11	1			11				
Livingston 8/17-23			BL	9											37	8	1			7				
Ionia 8/17-23			BL	5											31	8	2			6				
Saginaw 8/17-23			BL	0											20	5	3			2				
Bay 8/17-23			BL	4											31	4	0			8				
Newaygo 8/17-23			BL	0											28	4	1			8				
Chippewa 8/17-23			BL	6											0	3	0			5				
Menominee 8/17-23			BL	7											0	5	0			11				
Iron 8/17-23			BL	3											0	4	0			4				
MISSISSIPPI																								
Stoneville 8/20-26	71-97	0.79	2BL	52			12		138	35	996					12	486	2	31	72	280	122	2024	
Rolling Fork 8/20-26	71-98	3.19	BL	28			4		136	230	1086					4	228	1	20	28	116	68	7964	
Tunica 8/20-26			BL	38			20		143	16	734					9	116	1	40	15	6	81	405	

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = Blacklight; I = Incandescent; MV = Mercury Vapor; O = Other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chortagrotis auxiliaris (gray cutworm)	Estigmene acrea (fall-webworm caterpillar)	Peridroma diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege comsteinia (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
MISSOURI																								
Portageville 8/21-27			BL	10							339				2313		107			15				
NEBRASKA																								
Gering Valley 8/5-11				42				9		2				spp. 38		124				82				
Parks 7/28-8/3				31				42		4				72		96				37				
Scotts Bluff Exp. Sta. 8/7-13				13				11		2				46		301				132				
NEW JERSEY																								
Aura 8/23,27											33				3		6	1	7	65				
Edinburg 8/23,27											27				24			4	2	123				
Masonville 8/23,27											45				3		3		1	125				
Seabrook 8/23,27											35				11		26	4	5	63				
OHIO (Counties)																								
Licking 8/19-26			BL	5													6			6				
Wayne 8/19-25			BL	1				1								5	1	2		6				
Franklin 8/22-25			BL	6				8			3						19			16		18		
SOUTH CAROLINA																								
Charleston 8/16-22	71-95	2.15	BL	0			0		0	0	49					0	7	0	0	1		2	20	
Charleston 8/23-29	66-93	0.12	BL	0			0		3	0	106					0	2	0	0	3		1	8	
Clemson 8/14-20			BL	10					7		26					5	114		1	15		11		
Clemson 8/21-27			BL	3					2		49						123			11		34		
SOUTH DAKOTA									sp.															
Brookings 8/23-26			BL	33					351						19					29				
TENNESSEE (Counties)																								
Knox 8/17-23				44							129						63	43	18					
Johnson 8/17-23				21							44					2	9	6						
TEXAS																								
Waco 8/21-27			BL	17			14		74	108	323					24	12			16	0	0	312	
WISCONSIN																								
Delavan 8/13-20			BL								14				146									
Walworth 8/13-20			BL								69				397									
Fontana 8/13-20			BL								14				254									
Darien 8/13-20			BL								10				212									
Darien 8/17-23			BL								0				46					99				
Janesville 8/17-23			BL								1				15					19				
Ripon 8/10-16			BL								1				77					77				
Rosendale 8/10-16			BL								1				66					86				
Evansville 8/17-23			BL								0				26					79				
Mazomanie 8/18-24			BL	2							1				28	3				0				
Madison 8/18-24	45-77		BL	18	17						2				45	7				6				
Middleton 8/18-24			BL	1	8						1				27	6				6				
De Forest 8/17-23			BL								5				73	6				4				

LIGHT TRAP COLLECTIONS

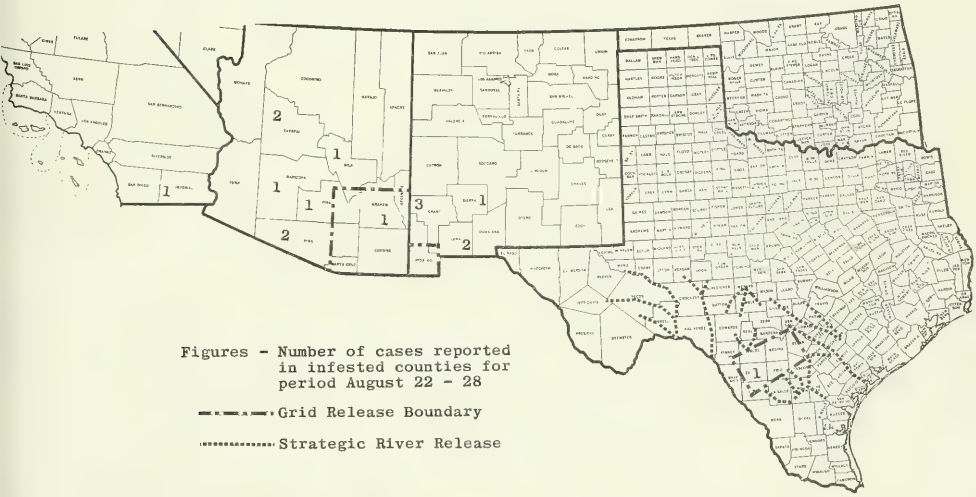
	Temperature °F.	Precipitation (inches)	Type of trap (BL - blacklight; Mv - mercury vapor; O - other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (gray cutworm)	Estigmene acrea (salt-marsh caterpillar)	Feronia diffusa (wheat head armyworm)	Fytia quinquemaculata (tomato hornworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Galleria mellonella (European corn borer)	Paridiomia spucula (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protagrotis gilvipennis (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
WISCONSIN (Continued)																								
Arlington 8/17-23			2BL								26				729					12				
Wayne 8/17-23			BL								1				1					4				
Theresa 8/17-23			BL								1				3					7				
Nenno 8/17-23			BL								1				3					1				
Eden 8/17-23			BL								3				3					10				
Hancock 8/14-24			BL	1							1				9	2				2				
Cedar Grove 8/17-23			BL								11				3					18				
Waldo 8/17-23			BL												1					13				

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period August 22-28, a total of 17 cases was reported in the Southwestern Eradication Area, as follows by States and counties: TEXAS - Zavala 1, an undentified county 1; NEW MEXICO - Dona Ana 2, Grant 3, Sierra 1; ARIZONA - Pinal 1, Yavapai 2, Graham 1, Pima 2, Gila 1, Maricopa 1; CALIFORNIA - Imperial 1. The Republic of Mexico reported 203 cases: Sonora 71, Chihuahua 47, Nuevo Leon 6, Durango 24, Coahuila 12, Tamaulipas 2, Veracruz 9, San Luis Potosi 7, Zacatecas 1. Sterile screw-worm flies released: Texas 16,746,250, New Mexico 2,090,000, Arizona 10,590,000, California 720,000, the Republic of Mexico 71,708,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	73	2520	70	4707	104.28	53.53
1964	0	105	64	5329	0.00	2.42
1965	17	594	64	3713	26.56	15.99
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	132	1579	39	1371	338.46	115.17
1965	151	3250	65	1650	232.30	196.96
Table 2A. Mexican portion of Barrier Zone only.						
1964	129	1410	21	606	614.28	232.67
1965	138	2774	31	909	445.16	305.17

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Maryland (State or District) DURING 1964 (Year)

ATTACKING Alfalfa (Commodity or Crop)

A. Pest or pest complex: Alfalfa weevil, pea aphid, meadow spittlebug, potato leafhopper

B. Number of acres [a] produced (From CRS) No. 98,000

C. Average yield per acre [a] (From CRS) Units/ 2.35 tons

D. Price[b] per unit (ton)[c] (From CRS) $/ 40.00

E. Acres [a] needing control No. 98,000

F. Acres [a] treated No. 91,000

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 30

I. Loss in yield, units per acre [a], C x H Units/ 0.71 ton

J. Loss in yield, $ per acre [a], D x I $/ 28.40

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all acres [a], (E-F) x I Units 4,970 tons

M. Control cost, $ per acre [a], $/ 5.00

N. Control cost for all acres [a], F x M $ 455,000

O. Yield loss for all acres [a], (E-F) x J $ 198,800

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 653,800 *

R. Percent loss due to each insect in the complex: Alfalfa weevil 75; pea aphid 15; meadow spittlebug 5; and potato leafhopper 5.

Comment: * Estimate does not include loss from reduction in quality.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Wallace, C. Harding, Jr.

Date June 22, 1965

ATTACKING Clover-timothy (Commodity or Crop)

A. Pest or pest complex: Aphids, plant bugs, meadow spittlebug, weevils (Hypera spp.)

B. Number of acres [a] produced (From CRS) No. 214,000

C. Average yield per acre [a] (From CRS) Units/ 1.35 tons

D. Price[b] per unit (ton)[c] (From CRS) $/ 30.00

E. Acres [a] needing control No. 200,000

F. Acres [a] treated No. 75,000

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 15

I. Loss in yield, units per acre [a], C x H Units/ 0.22 ton

J. Loss in yield, $ per acre [a], D x I $/ 6.60

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all acres [a], (E-F) x I Units 27,500 tons

M. Control cost, $ per acre [a], $/ 3.25

N. Control cost for all acres [a], F x M $ 243,750

O. Yield loss for all acres [a], (E-F) x J $ 825,000

P. Quality loss for all ---- [a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 1,068,750 *

R. Percent loss due to each insect in the complex: Aphids 50; meadow spittlebug 25; weevils 15; and plant bugs 10.

Comment: * Estimate does not include loss from reduction in quality.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Wallace C. Harding, Jr.

Date June 22, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MD. 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Washington, D. C. 20250

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Survey and Detection Operations
Plant Pest Control Division
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United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

Volume 15 September 10, 1965 Number 37

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

RED-LEGGED GRASSHOPPER continues to develop slowly in Wisconsin; most prevalent species in Missouri and causing some severe damage to alfalfa. GRASSHOPPERS damaging rangelands in Oklahoma and fall wheat in Utah; expected to cause some crop damage in dry areas of Iowa; ragging leaves of cotton in Hidalgo County, New Mexico. (pp. 1059, 1072). WHITE GRUBS (Phyllophaga spp.) continue problem in lawns, pastures and strawberry plantings in Wisconsin. (pp. 1059, 1069). CORN EARWORM of concern in several areas; some heavy infestations observed. (pp. 1060, 1061). SOUTHWESTERN CORN BORER caused heavy lodging of late-planted corn in southwestern Missouri. EUROPEAN CORN BORER infestations increased in sweet corn in Hudson Valley, New York; adult collections remain high in Delaware and Indiana, and new egg masses noted in Michigan and Wisconsin; damage to milo reported in Arkansas. NORTHERN CORN ROOTWORM heavy in sweet corn in Wisconsin, with considerable feeding on silks reported. Adult survey for CORN ROOTWORMS (Diabrotica spp.) in Minnesota reported. (pp. 1061, 1062). DESERT CORN FLEA BEETLE damaging sorghum in Arizona. (p. 1062). PEA APHID continues high on alfalfa in some areas of Ohio. Several PLANT BUGS of concern on legumes with some controls applied. THREE-CORNERED ALFALFA HOPPER continues rapid increase on alfalfa in Arizona. (pp. 1063, 1064).

CRANBERRY GIRDLER caused some severe damage in southeastern Massachusetts bogs. (p. 1068). POTATO PSYLLID infestations continue in potatoes in Wyoming; some psyllid-yellows damage evident. (p. 1069). CABBAGE LOOPER of concern to vegetable growers in several areas; increasing damage to tomatoes reported in South Carolina. (p. 1070).

BOLL WEEVIL continues heavy in several cotton-producing areas with some heavy damage reported; infestations increasing in late-planted cotton in Louisiana and throughout rolling plains area of Texas. BOLLWORMS continue a problem in several States; egg laying reported heavy over most of Louisiana. (pp. 1070-1072).

FALL WEBWORM defoliated many trees in Michigan, Illinois and Missouri; infestation in southwest Missouri heaviest in several years. (p. 1076). TEA SCALE heavy on many ornamentals in southern and central Alabama; much more damaging than usual in South Carolina. (p. 1077). JAPANESE BEETLE damaging several crops in Ohio. (p. 1082).

DETECTION

New State records are AZALEA WHITEFLY (Pealius azaleae) in Ohio (p. 1077) and LONG-NOSED CATTLE LOUSE (Linognathus vituli) in Hawaii (p. 1074). New county and parish records include: WESTERN CORN ROOTWORM (Diabrotica virgifera) in Henry, Jefferson, Keokuk, Buchanan and Linn Counties, Iowa, (p. 1062); SPOTTED ALFALFA APHID (Therioaphis maculata) in Laramie and Platte Counties, Wyoming, (p. 1064); an APHID (Lachnus salignus) in Maui County, Hawaii, (p. 1074); HOLLYHOCK WEEVIL (Apion longirostre) in Tooele County (p. 1078) and FACE FLY (Musca autumnalis) in Box Elder County (p. 1079), Utah; a BROWN SPIDER (Loxosceles reclusa) in Monroe County, Illinois, (p. 1080); EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) in Monroe County, Wisconsin, (p. 1080); JAPANESE BEETLE (Popillia japonica) in Clay County, North Carolina, and McDuffie County, Georgia, (p. 1082). WHITE-FRINGED BEETLES (Graphognathus spp.) were reported for the first time in Coosa, Lawrence, Lauderdale and Winston Counties, Alabama; Tippah County, Mississippi; and in Caldwell and Franklin Parishes, Louisiana, (p. 1082).

CORRECTIONS

See page 1074.

CHANGE IN SPELLING OF SCIENTIFIC NAME

A cecidomyiid midge, formerly known as Dasyneura gleditschiae (Osten Sacken), is now known as Dasineura gleditchiae (Osten Sacken). See Foote, R. H. 1965. In Stone, A. et al. A Catalog of the Diptera of America North of Mexico. USDA Agr. Handb. 276: 258-259. Note change in spelling of both genus and species.

SPECIAL REPORTS

Hawaiian Insect Notes. (p. 1074).

Status of the Screw-worm in the Southwest. (p. 1086).

Interceptions of Special Interest at U.S. Ports of Entry. (p. 1087).

Reports in this issue are for week ending September 3 unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

SEPTEMBER 1965

The Weather Bureau's 30-day outlook for September calls for temperatures to average below seasonal normals across the Nation except for near normal along the Pacific coast, the southern Plateau and southern Plains and above normal in the Southeast. Rainfall is expected to exceed normal over the eastern half of the Nation except for Middle and North Atlantic Coast States where near normal totals are anticipated West of the Continental Divide generally subnormal amounts are predicted while in unspecified areas near normal totals are in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

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WEATHER OF THE WEEK ENDING SEPTEMBER 6

HIGHLIGHTS: (1) Cool and dry West; cool and wet East. (2) Record cold and beneficial rain in Northeast. (3) Major hurricane hits southern Florida.

TEMPERATURE: As cold air moved across the Northeast the first two days of the week, frost and freezing occurred in scattered areas of both New York and New England. At several stations in the latter area, this was the first August freeze on record. At the same time cold air from the Pacific moved over the Far West causing frost and freezing at many points in the central and northern Rockies. Freezing also occurred at scattered locations in the northern Great Plains. Temperatures for the week averaged below normal, except in southeast New Mexico and much of Texas. The week was 6° to 10° colder than normal in the northern Great Plains and northern Rockies, and 6° to 8° in the Northeast. It was the second consecutive cool week in the northern half of the country and the third cool week in the northern Great Plains.

PRECIPITATION: Precipitation was moderate to heavy in most of the eastern half of the Nation. Up to 4 inches or more rain ended a dry spell in Kentucky, and 1 to over 2 inches in southwestern Tennessee were very beneficial. Rainfall in the Northeast generally ranged from 0.5 to 1 inch or more. Totals exceeded 2 inches in the Ohio and middle Mississippi Valleys and eastern Kansas. Amounts were generally less than 0.25 inch from the western Great Plains westward, with little or none in the Pacific States. Some snow fell in the higher Rockies and in the Black Hills of South Dakota. (Weather continued on page 1082).

CEREAL AND FORAGE INSECTS

GRASSHOPPERS - MICHIGAN - Low numbers of Melanoplus femurrubrum (red-legged grasshopper) noted in 5 fields of alfalfa checked; ranged 5-18 per 20 sweeps in central counties. (Newman). WISCONSIN - Development of M. femurrubrum continues prolonged; only about 20 percent of population full grown, except in most advanced areas. Feeding along margins of corn common in many areas; some damage to new seedings of alfalfa becoming evident. High counts reported in Clark, Lafayette, Wood and Richland Counties and in scattered areas of Columbia and Dane Counties. Preliminary results of grasshopper survey, where completed, indicate reduced population compared with 1964. (Wis. Ins. Sur.). ILLINOIS - Grasshoppers, mostly M. sanguinipes (migratory grasshopper) and M. femurrubrum, varied 20-120 per 100 sweeps in alfalfa in southern quarter of State. (Ill. Ins. Rpt.). IOWA - Grasshoppers expected to cause some crop damage in dry areas of State. (Iowa Ins. Inf., Aug. 16). SOUTH DAKOTA - In eastern counties, including Minnehaha, McCook, Miner, Lake, Moody, Brookings, Kingsbury, Deuel, Hamlin, Clark and Codington, grasshoppers mostly light with few areas of moderate populations in southern Clark, portions of southwestern Miner and Lake Counties, and northeastern Minnehaha and adjoining southeastern Moody County. M. femurrubrum, M. differentialis (differential grasshopper) and M. bivittatus (two-striped grasshopper) present. (Jones). Small areas of threatening to severe rangeland grasshopper infestations exist in western Custer and northwestern Haakon Counties; light infestations exist in Fall River, Custer, Pennington, Meade, Harding, Ziebach and Dewey Counties. (Burge, Zimmerman, Aug. 30). Grasshoppers continue to damage alfalfa and field borders of corn in south central and eastern areas of State. (Burge).

MISSOURI - Grasshoppers noneconomic to light in late corn, soybeans, pastures and alfalfa in Vernon, St. Clair, Henry, Jasper, Newton, Barry, Stone and Lawrence Counties; ranged 0-2 to 3-7 in fields and 5-10 to 11-20 in margins per square yard. M. femurrubrum most prevalent species. Damage to alfalfa severe in dry areas. (Houser). OKLAHOMA - Grasshoppers moderate to heavy and damaging rangeland in Mayes, Cleveland, Bryan, Greer and Beaver Counties. M. differentialis dominant in Beaver and Greer Counties. (Okla. Coop. Sur.). NEW MEXICO - Grasshoppers, predominantly M. occidentalis, noted on rangeland adjacent to field of cotton north of Lordsburg, Hidalgo County (Seaton, Hare), and ranged 8-12 per 25 sweeps in alfalfa north of Albuquerque, Bernalillo County, (Heninger). COLORADO - Grasshoppers ranged 0-3 per square yard on rangelands; however, in towns and municipalities, populations reported on weedy vacant lots and locally in gardens in eastern and western sections of State. (Colo. Ins. Sur.). UTAH - Grasshoppers damaging fall wheat in Blue Creek-Promontory area of Box Elder County; baiting program planned for control. (Thornley, Knowlton). Grasshoppers numerous on many farms in Davis County. (Knowlton). CALIFORNIA - M. differentialis form nigricans, M. marginatus and Trimerotropis pallidipennis medium in alfalfa in Kerman, Fresno County. (Cal. Coop. Rpt.).

SOD WEBWORMS - NEW YORK - Still causing complaints in Suffolk County. (N.Y. Wkly. Rpt., Aug. 30). COLORADO - Crambus leachellus and Crambus sp., probably mutabilus, numerous in lawns in Fort Collins area, Larimer County. (Thatcher). CALIFORNIA - Crambus sperryellus medium in lawns in Modesto, Stanislaus County. (Cal. Coop. Rpt.).

A SKIPPER (Atalopedes campestris) - OKLAHOMA - Large numbers of adults observed in several areas of State. Apparently moving south. Causing considerable concern that egg laying may be underway in cotton and alfalfa; however, thorough survey of cotton in Altus area, Jackson County, showed no eggs present. Larvae normally feed on grass, therefore, little probability of infestations in cotton or alfalfa. (Okla. Coop. Sur.).

WHITE GRUBS - UTAH - Caused above normal damage in lawns and gardens in Uintah County. (Lindsay, Knowlton). Required controls on 5 home lawns in Salt Lake City-Holladay area of Salt Lake County. (Rose, Knowlton). WISCONSIN - Phyllophaga spp. continue problem in lawns and pastures in scattered areas. (Wis. Ins. Sur.).

BILLBUGS - UTAH - Causing serious damage to Salt Lake City lawn. This very unusual in State. (Knowlton).

SPITTLEBUGS - SOUTH CAROLINA - Causing more damage to coastal Bermuda in Newberry and Allendale Counties this year. (Funchess, Busby. Aug. 31). GEORGIA - Unspecified species heavy in Coastal Bermuda grass in Meriwether County. (Godowns). ALABAMA - Prosapis bicincta nymphs and spittle masses heavy in central and southern areas; affecting lawn grasses. Centipede grass killed in some lawns in Geneva County. (Reynolds et al.).

CHINCH BUG (Blissus leucopterus) - NEW YORK - Second generation reaching peak and becoming serious in many lawns in Nassau County. (N.Y. Wkly. Rpt., Aug. 30). ARKANSAS - Small adult numbers observed in late-planted milo. (Ark. Ins. Sur.).

CORN EARWORM (Heliothis zea) - INDIANA - Early to middle-stage larvae infesting late field corn in south central area. Infestations ranged 75-80 percent in Corydon-Palmyra area of Harrison County. (Huber). Light trap collections increased considerably in southern two-thirds of State. (See light trap collections, page 1082). (Everly, Huber). ILLINOIS - Larvae infesting 0-100 percent of ears in field corn in southern part of State; ranged 0-100 per 100 ears; causing some damage. Practically all larvae have left earlier corn but all sizes still present in late corn. (Ill. Ins. Rpt.). WISCONSIN - Larvae present in few fields in Iowa and Dane Counties; counts as high as 2 per 25 corn ears. Many fields checked in Dane, Iowa, Columbia and Dodge Counties free of larvae. Late fields in particular may become infested later and peak flight generally occurs at about 2250 day-degrees. Blacklight traps not showing true flight pattern, due to cool nighttime temperatures. In portions of Wood County, 5 percent of sweet corn ears reported infested. (Wis. Ins. Sur.). COLORADO - Larvae infesting 40 percent of ears of field corn in Weld County. (Jenkins). NEW MEXICO Heavy in ears of field corn in southern Dona Ana County. (Mathews, Campbell). ARIZONA - Light to medium populations feeding on headed sorghums in Graham County and areas in Maricopa and Pinal Counties. (Ariz. Coop. Sur.). UTAH - Infestations very high in sweet and field corn throughout Uintah County. (Lindsay, Knowlton). IDAHO - Small infestations noted in field and late-planted sweet corn in Canyon County. (Bechtolt).

NEW YORK - Check plots 100 percent infested at Long Island Vebetable Research Farm; infestation up to 50 percent in some commercial fields in Hudson Valley. Light in Niagara County. (N.Y. Wkly. Rpt., Aug. 30). DELAWARE - Adults abundant in blacklight traps in Kent and Sussex Counties; averaged 90 per night in Sussex County. Adults abundant in most soybean and bean fields throughout State. (Burbutis, Woodall). VIRGINIA - Medium to severe in peanuts at Tidewater Research Station, Nansemond County. (Smith, Aug. 20). Adults and larvae severe in field of soybeans at Churchland. (Tate, Aug. 31). Increasing in soybeans generally and fields should be checked at least weekly. (Isakson). NORTH CAROLINA - Larvae reported feeding on peanuts in Edgecombe County field. Young larvae appearing in Gates County field. (Perry, Campbell). Reported causing considerable pod damage in some late-planted soybeans in Pamlico County and present in Carteret County field. (Mount). SOUTH CAROLINA - Larvae ranged 6-8 per 10 feet of row in soybeans in Allendale County. First damage reported in Hampton and Allendale Counties; damage expected in all counties. (Nettles et al., Aug. 31). Larvae extremely numerous in corn in Bamburg County September 2. Det. by S. G. Turnipseed. (Howe). GEORGIA - Light to moderate in some soybeans in southern area (French); heavy in Emanuel County (Varner). FLORIDA - Most abundant pest in plots of soybeans and southern peas at Gainesville, Alachua County, September 1. (Fla. Coop. Sur.).

ARKANSAS - Infestations generally not as heavy nor as widespread on soybeans as in 1964; more widespread, however, in Lee County than last year. Reported increasing on soybeans in Jackson County. Most numerous and potentially damaging species on sorghum. Larvae present at rate of 9,510 per acre in field of milo in Jefferson County August 30; crop in hard dough stage. Larvae averaged 23,000

per acre in heads of milo in Lee County; crop in milk stage. (Ark. Ins. Sur.). OKLAHOMA - Averaged 2.5 larvae per 10 sweeps in Jackson County alfalfa; averaged 4 per 100 terminals in peanuts checked in Love County. Reported moderate in corn in Cleveland County; occasional larva noted in heads of sorghum in Nowata County. (Okla. Coop. Sur.).

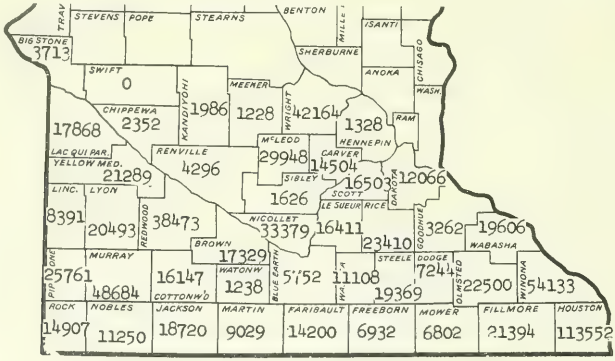
FALL ARMYWORM (Spodoptera frugiperda) - WISCONSIN - Small larvae light in very late plantings of field corn examined in southwest area. (Wis. Ins. Sur.). ILLINOIS - Larvae varied 0-20 (average 4) per 100 ear tips in few fields of late corn in southern area of State. (Ill. Ins. Rpt.). OHIO - Larvae reported infesting barley cover crop and some sorghum-Sudan hybrid in Morgan County and Golden Bantam sweet corn at Marietta, Washington County. (Esterling, Gehres, Holdsworth). MASSACHUSETTS - Infestation found in Greenfield area, Franklin County; controls applied. Crop not indicated. (Wave, Aug. 30). NEW YORK - Second to fourth-stage larvae entering up to 11 percent of ears of sweet corn in Hudson Valley field. (N.Y. Wkly. Rpt., Aug. 30). VIRGINIA - Damaged late corn in Spotsylvania County. (Isakson, Kash, Aug. 31). SOUTH CAROLINA - Larvae, probably this species, causing extra heavy damage to grain sorghum buds. (Padgett, Aug. 26). ALABAMA - Heavy infestations noted in peanuts in Houston County; averaged 30 full-grown larvae per 6-foot row in these fields. Peanuts mature and only light damage expected. Light to heavy on soybeans, Coastal Bermuda grass and Bahia grass in Covington County. (Bond, Roney, Pike). FLORIDA - Causing light damage to some crops in Gainesville area of Alachua County. (Fla. Coop. Sur.). ARKANSAS - This species and Celama sorgiella (sorghum webworm) minor pests of late-planted milo. (Ark. Ins. Sur.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSOURI - Causing heavy lodging of 10-35 percent in some late-planted corn in southwest area. No lodging observed in earlier planted corn. (Houser). ILLINOIS - Observed in 2 of 9 fields of corn examined in southern part of State; 4 percent of plants broken off in one field. (Ill. Ins. Rpt.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH DAKOTA - Percent pupation at several points over State ranged from zero in the north to 2 in the southeast; observations made at Hankinson, Lisbon, Forman, Mayville, Jamestown, Bismarck, New England, Dunn Center, Ryder and Leeds. Overall average was 1 percent. Most larvae in fifth stage, but at Leeds (Benson County) percent development as follows: Fifth stage 50, fourth stage 30, third stage 20. Borers per 100 corn plants ranged from 80 at Bismarck (Burleigh County) to 420 at Jamestown (Stutsman County). (Frye). WISCONSIN - Fresh egg masses noted even in most advanced areas of State. Larvae present in ears of sweet corn in scattered areas. Highest degree of infestation 16 percent. Third-stage larva noted in Spring Green area. (Wis. Ins. Sur.). ARKANSAS - Caused 42 percent of heads to break over in field of milo planted in mid-June in Lee County; crop near large corn acreage. (Ark. Ins. Sur.). INDIANA - Adult collections continue heavy in Posey, Dubois, Vanderburgh and Sullivan Counties. (See light trap collections, page 1083). Second-generation larval infestations range 4-8 percent in late corn checked in south central area. (Huber). MICHIGAN - First and second-stage larvae active in 5 fields of corn checked August 30 in Jackson and Calhoun Counties; few new egg masses noted as well as some eggs in black-head stage. Stalk entries in fields checked ranged 3-8 per 25 plants. Very little ear damage noted. (Newman). NEW YORK - Increased numbers, up to 11 percent, appearing in unsprayed Hudson Valley sweet corn in late silk. Tiny second brood larvae entering ears in Niagara County. (N.Y. Wkly. Rpt., Aug. 30). DELAWARE - Adult numbers remain high in blacklight traps in Sussex County; average over 20 per night. (Burbutis, Woodall). VIRGINIA - First-brood larvae averaged 12 per 100 plants in 3 corn plantings at Shenandoah Valley Field Station, Rockbridge County. (Woodside, Aug. 31).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - WISCONSIN - Average of 5 per silk noted in sweet corn in Columbus area. As many as 45 adults counted on individual plants. Considerable feeding on silks occurring; larvae of Heliothis zea (corn earworm) and Ostrinia nubilalis (European corn borer) absent in fields heavily infested by this beetle. Many fields reported goosenecked in Lafayette County. (Wis. Ins. Sur.).

CORN ROOTWORMS (Diabrotica spp.) - WYOMING - Adults of D. virgifera (western corn rootworm) and D. undecimpunctata howardi (southern corn rootworm) ranged 0-4 per corn plant in Laramie, Goshen and Platte Counties. (Marks). SOUTH DAKOTA - D. virgifera and D. longicornis (northern corn rootworm) adult population in corn in eastern counties down from previous week. Averaged 6 per plant in field of late corn in Moody County compared with 8 per plant previous week. Depending on condition of silks and amount of silk or cob exposed, adults ranged 0-21 per stalk. In instances of high counts, majority of beetles feeding at tops of cobs. D. longicornis appeared dominant. (Jones). MARYLAND - D. undecimpunctata howardi adults evident on fresh corn silks in Frederick County. (U. Md., Ent. Dept.). MINNESOTA - Adult survey conducted in 43 southern counties during mid-August designed to determine percentages of D. longicornis and D. virgifera (see CEIR 15(36):1030) and population levels. The presence of D. virgifera is important only when it becomes numerous. Percentage figures in 1965 are quite different from those of 1964. A year ago, percentages were more or less orderly with D. virgifera high in southwest area and gradually diminishing northward and eastward. This year the percentage of D. virgifera remained high only in Rock, Jackson and Watonwan Counties. Complete reversals in percentages occurred in Nobles, Murray and Cottonwood Counties where D. longicornis is again dominant. D. virgifera completely absent in Pipestone County this year, but comprised 34 percent of Diabrotica spp. population in 1964; in Lyon County, D. virgifera comprised only 6 percent of the overall population compared with 44 percent in 1964. Diabrotica spp. populations less this year in southwest area; D. virgifera showed greatest reduction. Cause of decrease unknown. Damaged fields present throughout southwest district this season but much less than in 1964. In some southeastern and central counties, Diabrotica spp. populations increased. The accompanying map shows population levels in 43 counties surveyed. Figures are average number of Diabrotica spp. adults per acre. Highest population count of 113,552 beetles per acre was found in Houston County, southeast. (Minn. Ins. Rpt.).



WESTERN CORN ROOTWORM (Diabrotica virgifera) - IOWA - Found for first time in Henry, Jefferson, Keokuk, Buchanan and Linn Counties. (Iowa Ins. Inf., Aug. 16).

DESERT CORN FLEA BEETLE (Chaetocnema ectypa) - ARIZONA - Averaged 550 per 100 sweeps in young sorghum in Yuma County, with considerable damage found in fields. (Ariz. Coop. Sur.).

SAP BEETLES (Carpophilus spp.) - ILLINOIS - Adults varied 0-30 per 100 ear tips in southern area field corn. (Ill. Ins. Rpt.). SOUTH DAKOTA - C. carpophilus (corn sap beetle) common in eastern counties on exposed tips of cobs of standing corn, particularly where kernels previously damaged by other insects. (Jones).

A SCARAB (Cotinis texana) - ARIZONA - Heavy numbers feeding on sorghum in fields just heading out. Averaged 50 per 100 sweeps. (Ariz. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - MARYLAND - High populations recorded in several fields of late corn on Eastern Shore. (U. Md., Ent. Dept.). OHIO - Populations well passed peak over most of State. Many corn plants no longer harbor high numbers previously noted, but cast skins and sooty mold still present. Only small numbers of aphids remain on infested plants; these occur in well protected places. This condition involves 60 percent of plants checked in Ashtabula County. Orius insidiosus (a flower bug) common in corn over State throughout season. (Rose). INDIANA - Populations range 50-300 on husks of ears on 15-30 percent of corn checked in southeastern and south central areas. (Huber). NORTH DAKOTA - Low to moderate numbers continue active in most areas. (Frye). IDAHO - Infestations spotted on corn in Canyon County; heavy in spots in some fields. Populations and infestations less than in 1964. (Bechtolt). CALIFORNIA - Medium on corn in Fresno, Fresno County, and on milo in Madera, Madera County; heavy on corn at Tyler Island, Sacramento County. (Cal. Coop. Rpt.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - WYOMING - Very light numbers noted on newly emerged winter wheat in Laramie County area. (Bard).

STINK BUGS - NEW MEXICO - Nymphs and adults, probably Chlorochroa sayi (Say stink bug), numerous in heads of milo at Rodeo, Hidalgo County. Control underway. (Hare). ARKANSAS - Oebalus pugnax pugnax (rice stink bug) found at rate of 4,400 adults and 25,000 nymphs per acre in Jefferson County sorghum. This is in rice-growing area. (Ark. Ins. Sur.). MISSOURI - Light on soybeans in central and southwest districts. Counts per 100 feet of row as follows: Acrosternum hilare (green stink bug) 0-10, Thyanta custator 0-7 and Euschistus variolarius (one-spot stink bug) 0-3. (Houser). SOUTH CAROLINA - Present in soybeans in local areas. More numerous in fields in Orangeburg and Barnwell Counties. Averaged 3-4 per 100 feet of row in Allendale County. (Nettles et al., Aug. 31).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Emergence from grain sorghum head samples collected in south plains area continued to increase; increase in adult movement also noted. (Daniels, Rummel, Hogg). OKLAHOMA - Occasionally noted in heads of flowering sorghum in Jackson County. (Okla. Coop. Sur.).

HESSIAN FLY (Mayetiola destructor) - NORTH DAKOTA - Evident in 4-5 percent of wheat plants at a location in Steele County. (Frye).

SPIDER MITES - NEVADA - Infestations in most corn in Fallon area of Churchill County at low levels due to control applications. (York). WYOMING - Noted as light on lower leaves of corn plants checked in Laramie, Goshen and Platte Counties. (Marks). WISCONSIN - Tetranychus sp. populations very high in many fields of field corn in Spring Green area. Eggs, larvae and adults of Hippodamia convergens (convergent lady beetle) common on plants; as many as 5 adults per leaf noted in some instances. No eggs of Ostrinia nubilalis (European corn borer) noted in these heavily mite infested fields. (Wis. Ins. Sur.).

PEA APHID (Acyrthosiphon pisum) - MARYLAND - Ranged 20-200 per 100 sweeps in several fields of alfalfa in central and eastern sections. (U. Md., Ent. Dept.). OHIO - Continues high on alfalfa in some areas; sampling in Licking County showed 50-60 per sweep, but averaged only 7 per sweep in Trumbull and Geauga Counties. Lady beetles common in infested fields. (Rose). Populations approached 100 per sweep in alfalfa early in August near South Charleston, Clark County; continued high during month. Corresponding buildup of predators, primarily Nabis ferus (a damsel bug) and Orius insidiosus (a flower bug), has occurred. (Holdsworth). MICHIGAN - Relatively light in all alfalfa sampled; ranged 80-140 per 20 sweeps. (Newman). INDIANA - Ranged 8-15 per sweep on new growth alfalfa in south central and southeastern areas. (Huber). ILLINOIS - Very low in alfalfa in southern quarter of State; ranged 0-20 per 100 sweeps. (Ill. Ins. Rpt.). WISCONSIN - Populations in alfalfa remain static. (Wis. Ins. Sur.). KANSAS - Remains low in alfalfa; ranged 100-200 per 100 sweeps. Predators remain numerous in most fields.

(Simpson). WYOMING - Adults and nymphs ranged 100-225 per 100 sweeps in alfalfa in Laramie, Goshen and Platte Counties. (Marks). COLORADO - Populations decreased on alfalfa in all areas of State. (Colo. Ins. Sur.). NEW MEXICO - Reported light on alfalfa throughout State. (Heninger, Kloepfer, Mathews).

SPOTTED ALFALFA APHID (Therioaphis maculata) - INDIANA - Averaged 8 per sweep in south central area alfalfa; alates comprised 10-30 percent of population. (Huber). ILLINOIS - Varied 20-2,660 (average 613) per 100 sweeps in alfalfa in southern quarter of State. Light damage and honeydew observed in few fields. (Ill. Ins. Rpt.). WISCONSIN - Increased substantially in several fields of alfalfa in Dane County; counts as high as 45 per sweep compared with 18 per sweep August 25. About 25 percent winged forms in many fields. (Wis. Ins. Sur.). KANSAS - Very light in few fields of alfalfa in Washington, Nemaha and Marshall Counties. (Simpson). MISSOURI - Light on alfalfa over west central and southwest areas. (Houser). NEW MEXICO - Light on alfalfa in Dona Ana and Bernalillo Counties. (Mathews, Heninger). WYOMING - Adults and nymphs per 100 sweeps in alfalfa by county averaged as follows: Laramie 21, Goshen 43, Platte 18. None taken in alfalfa in Converse County. Laramie and Platte Counties are new county records. (Marks).

BEAN APHID (Aphis fabae) - CALIFORNIA - Medium on beans for forage in Fresno County. (Cal. Coop. Rpt.).

LYGUS BUGS (Lygus spp.) - UTAH - Numerous in alfalfa and very numerous in sunflower plantings at Collinston, Box Elder County, and at Erda, Tooele County. L. hesperus comprised 35 percent of populations. (Knowlton). Numerous and required repeated applications in Uintah County alfalfa seed fields. (Lindsay, Knowlton). ARIZONA - Populations declined in Graham, Pima, Pinal and Maricopa Counties; no decline observed in Yuma County. (Ariz. Coop. Sur.). NEW MEXICO - Light to medium infestations noted in alfalfa in Chaves and Dona Ana Counties. (Kloepfer, Mathews).

TARNISHED PLANT BUG (Lygus lineolaris) - KANSAS - Averaged 50 per 100 sweeps in east central and northeast district alfalfa. (Simpson). ILLINOIS - Adults varied 0-80 and nymphs 0-60 per 100 sweeps in alfalfa in southern quarter of State. (Ill. Ins. Rpt.). MICHIGAN - Remains abundant in alfalfa checked; counts of 40-64 per 20 sweeps relatively common in most plantings checked. (Newman). OHIO - Nymphs and adults noted feeding on exposed tips of developing corn in Ashtabula County field; averaged about 5 per ear; predominantly nymphs. Ears not protruding from husks had few present. Populations on alfalfa remain relatively unchanged. (Rose).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - ILLINOIS - Adults varied 0-40 and nymphs 0-40 per 100 sweeps in alfalfa in southern quarter of State. (Ill. Ins. Rpt. Rpt.). NORTH DAKOTA - Averaged 3 adults per sweep in alfalfa near Hoople, Walsh County. (Frye).

POTATO LEAFHOPPER (Empoasca fabae) - MARYLAND - Ranged 1-20 per sweep on alfalfa checked in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). ILLINOIS - Adults varied 30-280 (average 90) and nymphs 0-200 (average 83) per 100 sweeps in alfalfa in southern quarter of State. (Ill. Ins. Rpt.). MISSOURI - Light (10-50 per 10 sweeps) on alfalfa in southwest district and light to moderate (10-100 per 100 sweeps) in west central district. (Houser).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Continues to increase rapidly in alfalfa in Graham, Yuma, Maricopa, Pinal and Pima Counties. Damage heavy in many fields. (Ariz. Coop. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - INDIANA - Adults moving into new growth alfalfa (4-6 inches high) in southeast area. Averaged 3 per sweep in fields examined. Ranged 0-2 per 10 sweeps in alfalfa in blossom or postblossom. (Huber).

ALFALFA CATERPILLAR (Colias eurytheme) - MARYLAND - Larvae light to medium on alfalfa in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.). INDIANA - Early stage larvae common in alfalfa in south central area; range from 1 per 5 sweeps to 2 per sweep in fields checked. (Huber). WYOMING - Larvae ranged 18-20

per 100 sweeps in alfalfa checked in Laramie, Goshen and Platte Counties. (Marks). NEW MEXICO - Reported generally light on alfalfa in Bernalillo, Chaves and Dona Ana Counties. (Heninger et al.).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Light to moderate in alfalfa and soybeans on Eastern Shore. (U. Md., Ent. Dept.). INDIANA - Larvae averaged 1-2 per 10 sweeps in alfalfa throughout southeastern and south central areas. (Huber). ILLINOIS - Larvae varied 1-60 per 100 sweeps in alfalfa in southern quarter of State; all sizes present. (Ill. Ins. Rpt.). SOUTH CAROLINA - Averaged 1-2 per foot of row in soybeans in Allendale County. Defoliation by P. scabra and unspecified loopers ranged from scattered to 30 (average 10) percent. (Nettles et al., Aug. 31). ARKANSAS - Numbers declined in soybeans compared with previous week. (Ark. Ins. Sur.). TEXAS - Infestations reported in soybeans in Ochiltree County. (Rummel).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Small numbers appearing in alfalfa in Yuma County and in western Maricopa County. (Ariz. Coop. Sur.). ARKANSAS - Numerous on soybeans in some areas of southeast section; not expected to become economic as foliage feeders. (Ark. Ins. Sur.). ALABAMA - This species and Pseudoplusia includens heavy and widespread on soybeans throughout Covington County. Light but widespread on peanuts throughout Geneva County. (Pike, Reynolds). GEORGIA - T. ni moderate to heavy in soybeans in southern part of State but virus disease killing larvae in all fields checked. (French). NORTH CAROLINA - Trichoplusia sp. reported feeding on peanuts in Hertford County. (Ballentine).

VARIEGATED CUTWORM (Peridroma saucia) - SOUTH CAROLINA - Larvae extremely numerous in soybeans in Newberry County August 23. Det. by R. C. Fox. (Bryson). IOWA - Feeding in alfalfa in Grundy, Hardin, Tama, Iowa and Hamilton Counties. (Iowa Ins. Inf., Aug. 16). WISCONSIN - Larvae common in silks of corn in Columbia and Dane Counties. (Wis. Ins. Sur.).

SOUTHERN ARMYWORM (Prodenia eridania) - ALABAMA - Light infestations noted on pigweed and few larvae observed feeding on soybeans in Baldwin County. Det. by D. M. Weisman. (Bagby, Wilson et al.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Extremely heavy numbers of fully-grown larvae feeding on soybeans near Saint Elmo, Mobile County. Moths numerous in field. (Seibels). SOUTH CAROLINA - Reported damaging soybeans in Hampton County. (Nettles et al., Aug. 31). Larvae, probably this species, moderate in soybeans in Horry County. (Sanders, Sept. 6).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - SOUTH CAROLINA - Previously damaged soybean plants now blown over during windy periods in Newberry County. (Bryson, Aug. 31).

WEBWORMS (Loxostege spp.) - MARYLAND - Light to medium on alfalfa checked in Queen Annes County. (U. Md., Ent. Dept.). DELAWARE - Larvae of L. commixtalis (alfalfa webworm) common on alfalfa in an area of Sussex County. (Burbutis, Woodall).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Averaged 11 per 100 terminals in peanuts checked in Love County. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - COLORADO - Adults causing foliage damage to alfalfa in Weld County. (Jenkins). Young larvae causing noticeable injury to alfalfa in Weld, Larimer, San Miguel and western Montrose Counties. (Jenkins, Hantsbarger). NEW MEXICO - Larvae range 0-4 per 25 sweeps on alfalfa in Bernalillo County. (Nielsen). ILLINOIS - Adults varied 0-1 per 100 sweeps in alfalfa in southern part of State; no larvae found. (Ill. Ins. Rpt.). MARYLAND - Adults ranged 0-2 and larvae 0-4 per sweep on alfalfa in Frederick and Queen Annes Counties. (U. Md., Ent. Dept.).

CLOVER ROOT CURCULIO (Sitona hispidula) - COLORADO - Adults causing foliage damage to alfalfa in Weld County. (Jenkins).

A WEEVIL (Pantomorus taeniatulus) - ALABAMA - Extremely heavy population observed feeding on soybeans in 100-acre field in Geneva County. Large numbers noted feeding on Chinese lespedeza in Lee and Macon Counties. P. godmani (Fuller rose beetle) also numerous in these infestations. (Reynolds, Barwood).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - MICHIGAN - More plentiful in 5 fields of alfalfa surveyed in Jackson and Calhoun Counties than on corn. Ranged from 6-13 per 20 sweeps. (Newman). MISSOURI - Building up on soybeans in southwest district, but remains noneconomic; ranged 5-25 per 100 feet of row. (Houser). NEVADA - Adults in alfalfa ranged 1-8 per sweep in Moapa and Virgin Valleys, Clark County, and averaged 1 per sweep in Pahrump Valley, Nye County. (Cooney, July 30). Previously reported as this species in CEIR 15(26): 673, and as a SPOTTED CUCUMBER BEETLE (Diabrotica sp.) in CEIR 15(32):891. Det. as D. undecimpunctata howardi by Dr. Ray Smith, who states this to be the extreme western edge of distribution for this eastern subspecies. (PPC).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ARKANSAS - Numbers in soybeans increased compared with previous week. (Ark. Ins. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - VIRGINIA - Increasing in soybeans generally and fields should be checked at least weekly. (Isakson). Adults and larvae severe in field of soybeans at Churchland. (Tate, Aug. 31). NORTH CAROLINA - Destroyed up to 50 percent of foliage in some fields of soybeans in Cumberland and Sampson Counties. (Robertson). SOUTH CAROLINA - Causing occasional damage in soybean fields, especially in Barnwell County. (Nettles et al.).

BLISTER BEETLES (Epicauta spp.) - INDIANA - E. pennsylvanica (black blister beetle) adults averaged 2 per 5 sweeps in alfalfa in south central counties. (Huber). ILLINOIS - Present in alfalfa in southern quarter of State. Counts per 100 sweeps as follows: E. pennsylvanica 0-60; E. pestifera (margined blister beetle) 0-2; Epicauta sp. 0-5. (Ill. Ins. Rpt.). OKLAHOMA - Epicauta spp. reported heavy in Mayes County alfalfa. First E. pennsylvanica of season noted on goldenrod and several other plants in northeast area. (Okla. Coop. Sur.).

TREFOIL SEED CHALCID (Bruchophagus kolobovae) - MISSOURI - Infested seed of birds-foot-trefoil in Columbia area, Boone County. (Craig).

BANDED SUNFLOWER MOTH (Phalonia hospes) - NORTH DAKOTA - Larvae averaged 4 per head in sunflower in Argusville area, Cass County; averaged 12 per head in volunteer sunflower at Fargo. (Frye).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - MICHIGAN - Sticky board traps indicate good emergence in abandoned orchards in Oceana and Grand Traverse Counties. Still emerging in Fennville and Kalamazoo areas. (Stevans, McClain, Howitt). NEW YORK - Second brood extremely light in Monroe County, even in unsprayed orchards. Fresh larval entries observed in fruit in Orleans County where spray cover was thin. (N.Y. Wkly. Rpt., Aug. 30).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - COLORADO - Little injury evident on peaches in Mesa County. (Bulla). NEW YORK - Some larval injury observed in orchard in Orleans County. (N.Y. Wkly. Rpt., Aug. 30).

RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) - NEW YORK - Second brood moderate in some orchards in Monroe County. (N.Y. Wkly. Rpt., Aug. 30).

OBLIQUE-BANDED LEAF ROLLER (Archips rosaceana) - WASHINGTON - Larvae, probably this species, damaging high percent of ripe peaches in orchard at Vancouver, Clark County. (Shanks, Aug. 30).

PEACH TREE BORERS - ALABAMA - Sanninoidea exitiosa (peach tree borer) and Synanthedon pictipes (lesser peach tree borer) larvae nearing maturity in peach and cherry trees in central and south sections; ranged 1-5 larvae in many untreated trees. (McQueen). MICHIGAN - Good emergence of Synanthedon pictipes in sweet cherry orchards in Grand Traverse area. (Howitt, Kessner).

PEACH TWIG BORER (Anarsia lineatella) - COLORADO - Little injury evident on peaches in Mesa County. (Bulla).

GRANULATE CUTWORM (Feltia subterranea) - FLORIDA - Larvae scattered in soil at or near base of peach tree at Pomona Park, Putnam County. (Eubanks, Brogdon, Dekle, Aug. 23).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - FLORIDA - Larvae scattered in soil at or near base of peach tree in orchard at Pomona Park, Putnam County. (Eubanks, Brogdon, Dekle, Aug. 23).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Adults and larvae medium on apple trees in Modesto, Stanislaus County. (Cal. Coop. Rpt.).

APPLE-AND-THORN SKELETONIZER (Anthophila pariana) - WASHINGTON - Larvae severely skeletonizing and rolling leaves on apple and crab apple and causing negligible damage to flowering cherry at Vancouver, Clark County. Pupae present. (Shanks, Aug. 30).

GOLDEN TORTOISE BEETLE (Metriona bicolor) - IDAHO - Riddling leaves of pear trees in Kooskia. (Cook).

A SAP BEETLE (Carpophilus humeralis) - CALIFORNIA - Adults medium in nectarine fruit in Fresno, Fresno County. (Cal. Coop. Rpt.).

ORCHARD MITES - MICHIGAN - Few spider mites in orchards in southwestern section; eggs abundant. Still a problem in a few isolated areas. (Howitt, Carpenter, Wooley). NEW YORK - Very high in many orchards in Monroe County despite cool temperatures. Red species subsiding in Orleans County. (N.Y. Wkly. Rpt., Aug. 30).

EUROPEAN RED MITE (Panonychus ulmi) - OHIO - Ranged 50-100 per leaf on some apple trees and averaged 23 per leaf on several plum trees; small numbers on peach trees in orchard near Utica, Licking County. Bronzing widespread. Adults and fresh, overwintering eggs common on older wood of apple and plum trees. Bronzing common in apple orchards in northeastern section. (Rose). MICHIGAN - Decreasing on apples and plums in orchards in Oceana County. Some controls still needed. (Stevans, McClain).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - MICHIGAN - Large numbers still present in many orchards in Berrien and Van Buren Counties. (Howitt). COLORADO - Abundant on apples in Delta and Mesa Counties. Range 10-30 per leaf where controls not effective. Overwintering forms becoming dominant in many orchards. (Bulla). OREGON - All stages building up on apples and pears in Benton County. (Capizzi).

PEACH SILVER MITE (Aculus cornutus) - COLORADO - Light to moderate in all peach orchards in Mesa County. No controls expected. (Bulla).

SCALE INSECTS - NEW YORK - Crawlers appearing on cherries and peaches in Nassau County. (N.Y. Wkly. Rpt., Aug. 30). FLORIDA - All stages of Pseudaulacaspis pentagona (white peach scale) localized and severely damaging stem of peach in nursery at New Smyrna Beach, Volusia County. (Pott, Aug. 18). All stages of Aspidiotus perniciosus (San Jose scale) scattered and severely damaging stem of peach in nursery at Glen St. Mary, Baker County. (Collins, Aug. 20).

PEAR-SLUG (Caliroa cerasi) - NEW MEXICO - Light to heavy on pears, plums and cherries in Albuquerque area, Bernalillo County. (Heninger). UTAH - Skeletonizing numerous pear and cherry trees in Holladay area, Salt Lake County. (Knowlton, Rose). NEVADA - Larvae heavy on cherry in Fallon, Churchill County. (York).

APPLE MAGGOT (Rhagoletis pomonella) - WISCONSIN - Total of 14 adults caught in ammonia bait trap in crab apple tree since last report. More problems reported this season than in last few years. (Wis. Ins. Sur.). MINNESOTA - Late varieties still need protection. (Minn. Ins. Rpt.).

FIELD CRICKETS (Gryllus spp.) - COLORADO - Abundant in peach orchards in Mesa County; becoming a nuisance in packing sheds, roadside fruit stands, and boxed fruit. (Bulla).

LEAFHOPPERS - NEW MEXICO - Heavy in unsprayed apple trees. Much leaf discoloration in Alameda area, Bernalillo County. (Heninger).

CITRUS BLACKFLY (Aleurocanthus woglumi) - TEXAS - Surveys in Hidalgo County and in Crystal City, Zavala County, negative. (PPC South. Reg., July Rpt.).

PECAN WEEVIL (Curculio caryae) - TEXAS - Surveys in areas of Denton County heavily infested in 1964 negative. One weevil found in Valley View area, Cooke County. (Turney). OKLAHOMA - Moderate on pecans in Mayes and Cleveland Counties. (Okla. Coop. Sur.). SOUTH CAROLINA - Causing heavy drop on immature pecan nuts in Laurens County. (Outz, Aug. 31).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Caused moderate to heavy damage on pecans in Cleveland County. (Okla. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - CALIFORNIA - Medium on black walnut trees in Freeport, Sacramento County. (Cal. Coop. Rpt.). SOUTH CAROLINA - Appearing on pecans locally. (Nettles et al.).

BLACK-MARGINED APHID (Monellia costalis) - NEW MEXICO - Heavy on some pecan trees in northern and southern Dona Ana County. (Gomez, Garcia). UTAH - Species attacking pecan foliage reported in CEIR 15(25): 642 determined as Myzocallis sp., Monellia costalis and M. nigropunctata by L. M. Russell. (Knowlton).

GRAPE PHYLLOXERA (Phylloxera vitifoliae) - GEORGIA - Heavy on grape foliage in Jackson County. (Welborn).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - CALIFORNIA - No additional infestations found after intensive inspection in Livermore, Fresno and Kerman areas. Treatment continues in 6.5 square mile quarantine zone at Fresno, Fresno County. (Cal. Coop. Rpt.).

A WEEVIL (Sciopithes obscurus) - OREGON - Causing heavy damage to roots and foliage in cranberry field near Milwaukie, Clackamas County. (Capizzi).

GRAPE BERRY MOTH (Paralobesia viteana) - MICHIGAN - Fair numbers of adults still emerging and being trapped in Mattawan area. (Howitt).

A LEAF ROLLER MOTH (Sparganothis sulfurana) - MASSACHUSETTS - Adult flights heavy in several cranberry bogs in southeastern section on warm nights. (Tomlinson).

CRANBERRY GIRDLER (Crambus topiarius) - MASSACHUSETTS - Injury appearing in many cranberry bogs in southeastern section; some damage severe. (Tomlinson).

BLUEBERRY MAGGOT (Rhagoletis mendax) - MASSACHUSETTS - Adults still active in southeastern section; numbers declining. (Tomlinson).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Populations remain high on many low-bush fruits, particularly cultivated blueberries in western section. (Burger et al.).

TRUCK CROP INSECTS

TOMATO FRUITWORM (Heliothis zea) - NEW MEXICO - Larvae found in ripe fruit in commercial tomato plantings in Dona Ana County. (Campbell, Mathews).

HORNWORMS (Protoparce spp.) - UTAH - Caused above normal damage to tomatoes and potatoes in Uintah County. (Lindsay, Knowlton). NEW MEXICO - Damaging commercial tomato plantings in southern Dona Ana County. (Campbell).

POTATO TUBERWORM (Gnorimoschema operculellum)- CALIFORNIA - Medium in tomato stems in Oceanside, San Diego County. (Cal. Coop. Rpt.).

SOUTHERN ARMYWORM (Prodenia eridania) - ALABAMA - Large number of larvae feeding on tomatoes in home garden in Lee County. (Bagby, Wilson, et al.).

POTATO PSYLLID (Paratrioza cockerelli) - WYOMING - Infestations continue in potato fields of Laramie and Goshen Counties. Adults average 1.5 per 100 sweeps in Laramie County and 2.5 per 100 sweeps in Goshen County. Psyllid-yellows damage evident in untreated fields. (Marks).

BLISTER BEETLES (Epicauta spp.) - WASHINGTON - E. fabricii (ash-gray blister beetle) adults feeding on potato foliage locally at Othello, Adams County. (Powell, Aug. 6). IOWA - E. pennsylvanica (black blister beetle) reported feeding on potatoes in gardens in scattered areas. (Iowa Ins. Inf., Aug. 16).

VINEGAR FLIES (Drosophila spp.) - MARYLAND - Heavy in 12 acres of tomatoes near Bishopville, Worcester County. (U. Md., Ent. Dept.). INDIANA - Heavy on tomatoes throughout State. Heavy rains caused rotting of unharvested fruit and intensified problem. (Huber).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Adults and nymphs heavy on pepper plants in Fresno, Fresno County. (Cal. Coop. Rpt.).

SLUGS - WASHINGTON - Causing moderate to severe damage to tomatoes in home gardens at Vancouver, Clark County. (Shanks, Aug. 30).

A LEAF MINER - SOUTH CAROLINA - More numerous in tomatoes in home gardens than in commercial fields at Clemson. (Smith).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NEW YORK - Injury evident in numerous untreated fields in Monroe County. (N. Y. Wkly. Rpt., Aug. 30). MARYLAND - Heavy on 2 acres of lima beans at Churchill, Queen Annes County. (U. Md., Ent. Dept.).

GREEN CLOVERWORM (Plathypena scabra) - DELAWARE - Common in some untreated lima beans in areas of Kent and Sussex Counties. (Burbutis, Woodall)

EUROPEAN CORN BORER (Ostrinia nubilalis) - NORTH CAROLINA - Larvae infesting stems of snap beans in Pitt County. (Winchester, Mount).

BEAN APHID (Aphis fabae) - CALIFORNIA - Adults heavy on beans in Fresno County. (Cal. Coop. Rpt.).

RASPBERRY CROWN BORER(Bembecia marginata) - MICHIGAN - Still emerging in good numbers. Many pupae still in stems, few mature larvae found. Eggs visible on foliage. (Howitt, Carpenter, Wooley).

WHITE GRUBS (Phyllophaga spp.) - WISCONSIN - Continue a problem in strawberry plantings in scattered areas. (Wis. Ins. Sur.).

WIREWORMS - UTAH - Seriously damaging strawberry patch near Brigham City, Box Elder County. (Allred, Knowlton).

CABBAGE LOOPER (Trichoplusa ni) - NEW YORK - Populations heavy on Long Island; up to 50 eggs per plant noted in Suffolk County. Numbers increased markedly in Orleans County. Infestations general in other areas of State. (N. Y. Wkly. Rpt., Aug. 30). MARYLAND - Larval feeding on foliage and pods of late snap beans causing concern to several growers in Baltimore and Harford Counties. (U. Md., Ent. Dept.). VIRGINIA - Medium on cabbage and collards in home garden in Mathews County. (Isakson, Dinwiddie). SOUTH CAROLINA - Damage to tomatoes increasing, controls planned. (Smith, Aug. 31).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW YORK - Population light but more general infestation developing in Monroe County. (N. Y. Wkly. Rpt., Aug. 30).

GOLDEN TORTOISE BEETLE (Metriona bicolor) - IDAHO - Population riddling leaves of tomato plants and hops in Kooskia. (Cook).

FLEA BEETLES - DELAWARE - Several species numerous on sweetpotatoes in southwestern Sussex County. (Burbutis, Woodall).

APHIDS - NEW YORK - Brevicoryne brassicae (cabbage aphid) colonies in center leaves of cauliflower in Niagara County. (N. Y. Wkly. Rpt., Aug. 30). COLORADO - Populations of unspecified species range none to low in potato fields in Weld County. (Jenkins, Simpson, McLaughlin, Boss). WASHINGTON - Extremely heavy population of Ovatus crategarius in several large, untreated, fields of peppermint near Othello, Adams County brought under control by fungus disease and predators, primarily Hippodamia convergens (convergent lady beetle). Some plants killed, most covered with sooty mold. (Landis, Aug. 30).

GREEN PEACH APHID (Myzus persicae) - NEW YORK - Numerous on peppers and other crops in Niagara County. (N. Y. Wkly. Rpt., Aug. 30). DELAWARE - Present on sweetpotatoes and peppers in Sussex County. (Burbutis, Woodall). CALIFORNIA - This species and Macrosiphum euphorbiae (potato aphid) heavy on tomato plantings in Courtland area, Sacramento County. (T. Lyons).

LEAFHOPPERS - WASHINGTON - Empoasca filamenta seriously damaging potatoes along field borders locally at Warden, Grant County. Colladonus montanus moderately abundant on peppermint at Othello, Adams County; no visible damage. (Landis, Aug. 30). CALIFORNIA - Adults of E. solana (southern garden leafhopper) medium on beans in Fresno, Fresno County. (Cal. Coop. Rpt.). DELAWARE - E. fabae (potato leafhopper) common on lima beans in most areas of State and on sweetpotatoes in Sussex County. (Burbutis, Woodall).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - WASHINGTON - All stages causing minor damage to untreated peppermint fields and present on corn, beans and other crops at Othello, Adams County. Population declining from unknown causes in some localities. (Landis, Aug. 30). CALIFORNIA - Heavy populations damaging bean plantings in Fresno, Fresno County. (Cal. Coop. Rpt.).

SQUASH BUG (Anasa tristis) - UTAH - Caused some loss of squash in Uintah County. (Lindsay).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - SOUTH CAROLINA - Large numbers of weevils can be found in most fields, except those where controls applied. Several fields checked in Pee Dee and Savannah Valley areas surprisingly free of large numbers for time of year. Due to maturity of crop and lack of squares, infestation counts for State being discontinued. Counts in some treated fields still exceptionally low; Edgefield 9 percent, Greenville 10 percent, Marlboro 10 percent, Pickens 10 percent. (Cott. Ltr., Aug. 31).

TENNESSEE - Maturing cotton and heavy weevil infestations in southern counties continue to make northern fields more attractive to migrating weevils. Heavy damage to small bolls still occurring in regularly infested portion of cotton-growing area. Many fields began "cutting out" before large numbers of weevils began migrating, forcing them to settle down in still growing, rank cotton. Heavy damage to top crop resulting where carefully timed controls not carried out. Continued migration to northern counties expected, but most cotton expected to be at stage of maturity that damage will be confined to rank late cotton. (Locke, Sept. 1). GEORGIA - Infestations very heavy in Stewart and Webster Counties. (Dillard). MISSISSIPPI - Weevil infestation high in many delta county fields as movement from "cut out" fields to more attractive cotton continues. (Pfrimmer et al., Sept. 2). LOUISIANA - Infestations increasing in late-planted cotton. Recommended insecticides giving satisfactory results but control lost in some fields not treated on schedule. Population pressure greater in most fields than for several years. Pressure will continue for rest of season. Some movement of weevils between fields occurring; may require shorting of control application interval to 3 days. (Tynes, Aug. 30). Percent infestation ranged 5-41 (average 16) in 95 fields in Madison Parish. (Cleveland et al., Sept. 2). ARKANSAS - Many fields continue to "cut out" and cotton to mature. Weevil infestations high in some of these fields. In some areas, local migration occuring as weevils leave old cotton and move into nearby young cotton. Control applications will continue profitable as long as populations high in infested fields and young bolls present that will mature. Some boll damage can be expected where close schedule followed. Many surface feeding punctures will not penetrate the boll. (Barnes, Roberts, Aug. 27). In Jefferson County on August 30, moths averaged 15.2 per 1,000 row feet on baited cotton. Moths averaged 26.7 per 1,000 row feet in Monroe County August 31 and were lower, as they have been, in an area of Lee County on September 1. Sharp drop in temperature may have affected this count. High numbers also taken in light traps. (Ark. Ins. Sur.). OKLAHOMA - Infestation counts ranged from 9 percent in sprayed fields to 65 percent in unsprayed fields in southwest area. Counts in south central area ranged 12-33 percent and increasing. Controls begun in some areas of Bryan County. Infestations light (2-10 percent) in Beckham County. (Okla. Coop. Sur.). TEXAS - Boll weevil continued to increase throughout rolling plains area; heaviest infestations observed in Taylor, Schleicher, Tom Green, Concho, McCulloch, Hardeman, Wichita, Fisher, Baylor and Stonewall Counties. Punctured squares in heaviest infested fields ranged 65-100 percent. Recent moisture caused increase in weevil emergence in untreated, dryland fields below Caprock in western area; infestations still light above Caprock with exception of some fields in Floyd County. (Texas Coop. Rpt.). ALABAMA - Weevil numbers continue high throughout State. Migration occurring from older fields to late cotton and low land areas throughout State. Adults attacking young to two-thirds grown bolls. Pupation and "hatch out" of 1-3 weevils per boll observed in central and southern portions of State. (McQueen).

A WEEVIL (Anthonomus sp.) - ARIZONA - Adults and larvae found on cotton in western Pinal County. High numbers still found in western Maricopa and eastern Yuma Counties. (Ariz. Coop. Sur.).

BOLLWORMS (Heliothis spp., et al.) - SOUTH CAROLINA - Increasing numbers of moths being taken in light traps, indicating cotton will be subjected again to large numbers of larvae. (Cott. Ltr., Aug. 31). TENNESSEE - Continue to cause considerable damage over western cotton-growing area, with all larval stages present in infested fields. Some damage evident also in fields completely "cut out" at this time. Infestation continues heaviest in those fields where controls for Anthonomus grandis (boll weevil) were erratic. (Locke, Sept. 1). GEORGIA - Population increased very rapidly at Griffin, Spalding County; moth counts in light trap increased from 31 on August 27 to 143 on September 1. (Beckham). ALABAMA - Little change noted since report of previous week. Numbers heavy in Jackson and Bibb Counties and few other counties. (McQueen). MISSISSIPPI - Egg deposition decreased in delta county fields, but larvae still plentiful in some fields. (Pfrimmer et al., Sept. 2). LOUISIANA - Egg laying continues heavy over most of State; heaviest in cotton still green. Many eggs laid on blooms and young larvae going directly into young bolls. This makes control more difficult as larvae not exposed until move to another boll. Recommended controls applied

at 4-5 day intervals giving good results. Remaining on schedule important. (Tynes, Aug. 30). Infestation in 95 fields in Madison Parish ranged 0-23 (average 7.3) percent; this is double that of previous week. Population pressure much less than at beginning of period. (Cleveland et al., Sept 2). ARKANSAS - Continue problem in some fields; larval counts highest on younger cotton. Moth activity concentrated into few fields in some areas. Fields with bloom and some small bean set most attractive. Moth flight and egg laying should drop in fields over State in another week or so. Young cotton and young soybeans should be watched until crop made. Any field of cotton with second growth should also be watched. (Barnes, Roberts, Aug. 27). MISSOURI - Larvae ranged 0-11 per 100 terminals in 38 percent of 702 fields scouted and eggs ranged 1-7 per 100 terminals in 16 percent of these fields. Treatments recommended for 440 acres in 15 of the 702 fields checked. (Jones). OKLAHOMA - Eggs light in cotton-growing areas in west central, southwest and south central sections of State; occasional counts as high as 20 percent, but most below 10 percent. (Okla. Coop. Sur.). TEXAS - Continue damaging in rolling plains area of State with most infestation in irrigated cotton, although some dryland fields reported infested. Heavy outbreak occurred in Dickens County. Increased infestations reported from some areas of Kent and Motley Counties. Populations remained light above the Caprock. (Texas Coop. Rpt.). NEW MEXICO - H. zea (bollworm) caused very light damage to cotton in Hidalgo County (Hare); light to heavy infestations found in fields in Dona Ana County, where some control in progress (Mathews, Campbell). ARIZONA - Scattered infestations of H. zea continue to require controls in Pima, Pinal, Maricopa and Yuma Counties. Decreases noted in some areas where infestations lighter. (Ariz. Coop. Sur.). CALIFORNIA - Abundant on Fresno County cotton east of U.S. Highway 99 and in some fields in Caruthers and Laton areas; only occasional small population found elsewhere. (Stromberg, Aug. 25). Numbers continued to increase in Kern County. Economic counts prevalent throughout county with some fields having well over 10 larvae per 100 plants. Larvae definitely heavier where "broad spectrum" insecticides used past 2-3 weeks. (Black, Aug. 25). Moth activity increased in Kern County during past few days and larval populations increased generally throughout valley although infestations appear localized. Larvae range 6-13 per 100 plants in occasional instances. (Leigh, Aug. 25).

CABBAGE LOOPER (Trichoplusia ni) - ALABAMA - T. ni and Pseudoplusia includens quite general on cotton throughout State, especially young cotton in Bibb, Lee, Talladega and Montgomery Counties. Largely defoliated one large field in Lee County. Most larvae in this field dying from disease. (McQueen). MISSISSIPPI - Sept. 2). LOUISIANA - Medium to heavy in some cotton in northeast area; heaviest in sprinkler irrigated fields in Wheeler Ridge area.
around edges of fields. Spot treatment may be required on some late cotton. (Tynes, Aug. 30). Caused light to heavy damage in several fields of cotton in Madison Parish. (Cleveland et al., Sept. 2). OKLAHOMA - Light to moderate in cotton in Greer, Jackson and Beckham Counties. Large percentage of larvae infected by virus in Altus area of Jackson County. (Okla. Coop. Sur.). CALIFORNIA - Virus disease preventing what appeared to be beginning of problem in Kern County, particularly in sprinkler irrigated fields in Wheeler Ridge area. (Black, Aug. 25). Evident in most fields checked in Kern County. Some economic or near economic infestations observed in Corcoran area. Natural-occurring virus increasing and exerting control on outbreak in some areas. (Leigh, Aug. 25).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Common on cotton in Fresno County, along with bollworms (Heliothis spp.). Still causing substantial damage in some fields. (Stromberg, Aug. 25). S. exigua still evident in cotton in many Kern County fields. Although economic infestations not common at this time, some square and boll damage evident. (Leigh, Aug. 25).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Continues to increase on cotton in Yuma County. Some controls necessary in lower Yuma Valley. (Ariz. Coop. Sur.).

LEAF ROLLER MOTHS - CALIFORNIA - Larvae of Platynota stultana common in cotton on east side of Fresno County; populations probably do not justify controls, but should be watched as they may possibly become important. (Stromberg, Aug. 25). Udea profundalis (false celery leaf tier) common on cotton in Tulare-Waukena area of Tulare County; some fields need control applications. P. stultana common on cotton in portions of Fresno County and in Shafter and Arvin areas of Kern County. (Leigh, Aug. 25).

APHIDS - SOUTH CAROLINA - No serious buildups reported on cotton. (Cott. Ltr., Aug. 31). TENNESSEE - Present in most rank cotton in western area and expected to increase as weather becomes cooler. Damage from honeydew to lint expected if populations allowed to become heavy. (Locke, Sept. 1). LOUISIANA - Light infestations observed in few fields in Madison Parish. (Cleveland et al., Sept. 2). ARKANSAS - Increasing in some fields. Controls should be used where buildups become sufficient to make honeydew a problem on open cotton. (Barnes, Roberts, Aug. 27). NEW MEXICO - Aphis gossypii (cotton aphid) noted as light to heavy on cotton in Dona Ana County. Some control underway. (Mathews, Campbell). Moderate in field at Rodeo, Hidalgo County. (Hare). CALIFORNIA - Aphids present in some fields in Fresno County along San Joaquin River near Friant and in Firebaugh-Mendota area. Populations not sufficiently high to justify treatments. (Stromberg, Aug. 25). A. gossypii evident in many fields in Kern County; economic outbreak in one situation. Growers should watch for this pest from now until harvest. (Leigh, Aug. 25).

PLANT BUGS - MISSOURI - Adults and nymphs of several species ranged 0-45 per 100 plants in 61 percent of 702 fields checked. (Jones). ARIZONA - Adelphocoris superbus (superb plant bug) ranged light to medium in few fields of cotton in Graham, Maricopa, Pinal and Pima Counties. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - ARIZONA - Decreased on cotton in many areas, although economic numbers continue to be found in some fields. Damage ranged 3-10 percent on squares and bolls in more heavily infested fields. (Ariz. Coop. Sur.). CALIFORNIA - Continue abundant in many Fresno County fields; nymphal counts high in many fields. (Stromberg, Aug. 25). As most of crop already set in Kern County, populations of little concern except in rare instances. (Black, Aug. 25). Continue to cause severe damage in some fields where no controls applied in Kern County. In many instances, squares destroyed and late bolls damaged. Although most growers obtaining good control, those growers who have not treated recently should check fields closely. (Leigh, Aug. 25).

A STINK BUG (Thyanta custator) - CALIFORNIA - Noted in 2 fields of cotton in Kern County. Although economic outbreak does not appear likely, fields should be checked for this pest. (Leigh, Aug. 25).

GRASSHOPPERS - NEW MEXICO - Ragging leaves of first 3-7 rows of cotton in fields north of Lordsburg, Hidalgo County. Strip sprayed to prevent further movement into field. (Hare, Seaton).

SPIDER MITES - SOUTH CAROLINA - Numbers increasing on cotton in dry areas of State. No serious infestations reported. (Cott. Ltr., Aug. 31). TENNESSEE - Continue a problem over cotton-growing area; heavy damage resulted where controls not applied. There are not many fields not having some degree of mite infestation at this time. (Locke, Sept. 1). MISSISSIPPI - Still present in many fields in delta counties. (Pfrimmer et al., Sept. 2). LOUISIANA - Light infestations observed in few fields of cotton in Madison Parish. (Cleveland et al., Sept. 2). CALIFORNIA - Well under control on cotton throughout Fresno County. (Stromberg, Aug. 25). Heavy mite concentrations evident in spots in many fields in Kern County. (Black, Aug. 25).

TOBACCO INSECTS

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - MARYLAND - Causing conspicuous injury to late tobacco in central areas of Anne Arundel County. (U. Md., Ent. Dept.).

CABBAGE LOOPER (Trichoplusia ni) - MARYLAND - Caused moderate injury to field of tobacco in Calvert County. (U. Md., Ent. Dept.).

HORNWORMS (Protoparce spp.) - MARYLAND - Very light on tobacco checked in St. Marys County. (U. Md., Ent. Dept.).

GREEN PEACH APHID (Myzus persicae) - MARYLAND - Populations continue generally high on late tobacco in most areas. (U. Md., Ent. Dept.).

CORRECTIONS

CEIR 15(5):62 - A TWIG BORER (Amphicerus cornatus) should read Amphicerus cornutus)

CEIR 15(31):859 - A FALSE POWDER-POST BEETLE (Amphiderus cornutus) should read Amphicerus cornutus.

CEIR 15(32):891 - A SPOTTED CUCUMBER BEETLE (Diabrotica sp.) - NEVADA - Should read SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi). Det. by Dr. Ray Smith, University of California. This is the extreme western edge of distribution for this eastern species. See page 1066 this issue.

HAWAIIAN INSECT NOTES

The following notes on Hawaii insect conditions were presented at the meeting of the Hawaiian Entomological Society held in August 1965.

An APHID (Lachnus salignus (Gmelin)) was taken from Osteomeles anthyllidifolia at an elevation of 7,000 feet in Haleakala Crater, Maui, on July 23, 1965. This is a new island and county record for this large aphid, which was previously known in the State only on the island of Hawaii. O. anthyllidifolia, a native shrub, is the only known host in the State, although the aphid has been recorded from willow and several other hosts elsewhere. (J. W. Beardsley).

Adults of an OLETHREUTID MOTH (Cryptophlebia sp.) (tentative identification) were recovered from terminal stems and seed pods of indigo (Indigo suffruticosa) collected from Oahu, Hawaii and Kauai. This constitutes a new host record for the State. Stems were severely damaged, causing dieback of terminal shoots. (H. Nakao).

LONG-NOSED CATTLE LOUSE (Linognathus vituli (L.)) was found infesting young calves at Kipu Ranch, Kauai, in June 1965. This sucking louse has probably been in Hawaii for some time, but its presence has never before been recorded. Thus, this constitutes the first report of this species in the State. (H. Nakao).

A GRASSHOPPER (Schistocerca vaga Scudder) - The fifth and final scheduled cooperative aerial application was made on Sand Island July 30, 1965. The fourth application was made July 1, and only 3 adults and one third-instar nymph were found between these 2 dates. Surveys made on the island after the fifth application have been negative. If additional specimens are found, consideration will be given to continued application on a find and treat basis. (C. Gaddis).

SOUTHERN HOUSE MOSQUITO (Culex pipiens quinquefasciatus Say) was found breeding in a small pool in the forest above Paauilo, Hawaii, on August 7, 1965. (D. E. Hardy).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - ALABAMA - Larvae heavy and defoliating pines in Wilcox County. (Ledbetter, Farquahr). VIRGINIA - Severe in 7-acre stand of loblolly pine in Clarke County. (Va. For. Pest Rpt., July Summ.).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - VIRGINIA - More than adequate rainfall in several areas failed to prevent near-epidemic numbers throughout 1964 salvaged area. More timber reported killed than in 1964 in Mathews and Gloucester Counties. Aerial survey in New Kent and Charles City Counties August 6 revealed continued activity around many spots salvaged and not salvaged in 1964. Little spread observed in New Kent and Charles City Counties, however. Activity noted in small spots in Prince George and Dinwiddie Counties, widespread in Goochland and Powhatan Counties. Active in New Kent and Charles City Counties; 20 new infestations reported in Chesterfield County; killing 8 trees in Amherst County location and scattered individual shortleaf pines in 3 Louisa County stands. Farmville area hardest hit; recurring epidemic observed. D. frontalis, with Ips spp., widespread in northwest Nottaway, Lunenburg, Amelia, Mecklenburg, Buckingham, Prince Edward, Charlotte and Cumberland Counties. D. frontalis killed single shortleaf pine in Campbell County; noted in 2 spots of 2-4 loblolly pines in Henry County; active in Gloucester and Mathews Counties. Killing 7 trees in single spot in Westmoreland County and on 2 Caroline County tracts. (Va. For. Pest Rpt., July Summ.).

CONIFER BARK BEETLES (Dendroctonus spp.) - VIRGINIA - Causing death of 8-10 trees locally in Sussex County; few scattered spots of 3-5 trees noted in Brunswick County. Infested 3-4 white pines in 2 spots in Franklin County. Evidently on increase; reported in Nottoway, Prince Edward, Buckingham, and Halifax Counties. Infesting occasional tree in mature stands of loblolly in Caroline County. (Va. For. Pest Rpt., July Summ.).

ENGRAVER BEETLES (Ips spp.) - VIRGINIA - Killing 3-10 trees in few scattered spots in Brunswick County; 3 spots in Prince George County. Killed half of 2-acre Virginia pine stand and active in remainder of Albermarle County. Killing 4 shortleaf pines locally in Halifax County; killed loblolly pine in single spot in Campbell County. (Va. For. Pest Rpt., July Summ.).

WHITE-PINE WEEVIL (Pissodes strobi) - VIRGINIA - Damage about normal and evident in Franklin, Patrick, Floyd, Montgomery and Roanoke Counties. Evident and widespread in Frederick County; noted in plantation in Rockingham County; noted in Page, Augusta, Alleghany and Shenandoah Counties. (Va. For. Pest Rpt., July Summ.).

PALES WEEVIL (Hylobius pales) - VIRGINIA - Killed some loblolly pine seedlings on cut and burned area in Charlotte County. (Va. For. Pest Rpt., July Summ.).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - VIRGINIA - Damage evident in all young pine stands in Brunswick County; moth activity light on loblolly pine plantation in Prince William County; damage slight on 15-acre loblolly plantation in Orange County. Damage moderate to loblolly and young shortleaf pines in Lunenburg County and in 3 areas in Amelia County. Quite heavy in some areas of Charlotte County; mostly on loblolly pine planted in old field; little infestation noted in conversion sites. Population about normal in loblolly in Patrick, Franklin and Roanoke Counties. (Va. For. Pest Rpt., July Summ.).

BAGWORM (Thyridopteryx ephemeraeformis) - WISCONSIN - Noted on arborvitae and junipers brought into State from southern areas; does not overwinter in State; present only seasonally. (Wis. Ins. Sur.). OHIO - Defoliated 50 percent of 25-foot blue spruce near Reynoldsburg, Licking County. Flowering crabs also attacked severely. Larvae near pupation. (Walker). OKLAHOMA - Continues heavy on evergreens in Mayes County. (Okla. Coop. Sur.).

RED-HUMPED CATERPILLAR (Schizura concinna) - WISCONSIN - Larvae common on honeylocust trees in southeastern counties. (Wis. Ins. Sur.).

MIMOSA WEBWORM (Homadaula albizziae) - ILLINOIS - Widespread in southern area on honeylocust and mimosa but damage not so severe as in 1963. (Ill. Ins. Rpt.).

LOCUST LEAF MINER (Xenochalepus dorsalis) - VIRGINIA - Caused 90 percent browning of foliage in 6 Nelson County locations. (Va. For. Pest Rpt., July Summ.).

LOCUST BORER (Megacyllene robiniae) - UTAH - Damaging black locust as far north as Kaysville, Davis County. (Knowlton).

A CECIDOMYIID MIDGE (Dasineura gleditchiae *) - WISCONSIN - Galls on honeylocust and related trees higher than normal in southeastern counties. (Wis. Ins. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - ARKANSAS - Reproduction continues; adults, larvae and eggs found on Chinese elms in east central area. (Ark. Ins. Sur.). OKLAHOMA - Heavy on elms in Beaver and Mayes Counties; moderate in Cleveland County. (Okla. Coop. Sur.). KANSAS - New egg masses reported in Salina, Saline County; partial third generation possible. (Thompson). UTAH - Damage less extensive in Salt Lake County than in 1964. (Knowlton).

LEAF BLOTCH MINERS (Cameraria spp.) - VIRGINIA - Evident in white and post oaks locally in Nottoway County; widespread in Frederick, Clarke, Shenandoah and Warren Counties. (Va. For. Pest Rpt., July Summ.). NORTH CAROLINA - Infested oaks in Forsyth County; very prevalent on oaks this season. (Mount).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - RHODE ISLAND - Terminal feeding on oaks in Richmond and Hopkins, Washington County, noted. Mostly noneconomic. (Mathewson, Sorensen).

CALIFORNIA OAKWORM (Phryganidia californica) - CALIFORNIA - Defoliating cork oak trees in Moss Park, Oakland, Alameda County. (Cal. Coop. Rpt.).

MAPLE CALLUS BORER (Sylvora acerni) - MASSACHUSETTS - Damaging maples in Deerfield area, Franklin County; causing limbs to break. (Wave, Aug. 30).

MAPLE BLADDER-GALL MITE (Vasates quadripedes) - OHIO - High incidence of galls on young planting of silver maples in Hamilton County noted. (Cooley).

FALL WEBWORM (Hyphantria cunea) - MARYLAND - Webs conspicuous on roadside deciduous trees in eastern and northern sections. (U. Md., Ent. Dept.). MICHIGAN - Seriously denuded many native black walnut trees in Lawrence area, Van Buren County. (Thompson). ILLINOIS - Very abundant; defoliated many trees in some southern areas; 15-20 nests per tree common in more heavily infested areas. Larvae ranged one-half inch to full grown; left many older nests. (Ill. Ins. Rpt.). MISSOURI - Caused severe damage in southwest district; many trees of several species defoliated. Larvae feeding on many species of flowering plants and shrubs and invading homes. Heaviest infestation in area in several years. (Houser). NEW MEXICO - Generally light with occasional heavy infestation on elms, mulberry, cottonwoods and poplars in Bernalillo, Chaves and Dona Ana Counties. (Heninger et al.).

A LYONETIID MOTH (Paraleucoptera heinrichi) - CALIFORNIA - Larvae medium on Prunus lyonii in Moss Park, Oakland, Alameda County. (Cal. Coop. Rpt.).

AMERICAN PLUM BORER (Euzophera semifuneralis) - NEW YORK - Still a problem on London planetree and wild cherry in Suffolk County. (N.Y. Wkly. Rpt., Aug. 30).

A CERAMBYCID BEETLE (Neoclytus caprea) - UTAH - Numerous in dying Modesto ash at Cedar City, Iron County. Determined by G. B. Vogt. (Knowlton, Sjoblom).

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* Foote, R. H. 1965. In Stone, A. et al. A Catalog of the Diptera of America North of Mexico. USDA Agr. Handb. 276: 258-259. Note change in spelling of both genus and species.

BIRCH LEAF MINER (Fenusa pusilla) - WASHINGTON - Full-grown larvae moderately damaging birch at Puyallup, Pierce County. (Breakley, Aug. 30).

LACE BUGS (Corythucha spp.) - CALIFORNIA - C. salicata nymphs and adults heavy on poplar trees in Corning, Tehama County. (Cal. Coop. Rpt.). DELAWARE - C. arcuata (oak lace bug) common on oaks locally in Kent County. (Burbutis, Woodall).

AN ERIOPHYID MITE (Oxypleurites aesculifoliae) - CALIFORNIA - Medium on horse-chestnuts in De Fremery Park, Oakland, Alameda County. (Cal. Coop. Rpt.).

APHIDS - CALIFORNIA - Amphorophora nervata medium on Arbutus unedo in park in Oakland, Alameda County. Neothomasia populicola medium on poplar trees in Fresno area, Fresno County. (Cal. Coop. Rpt.). UTAH - Various species troublesome on elms, Norway and silver maples and birch during summer in Davis County. (Stokes, Knowlton). Drepanaphis utahensis very scarce on canyon maples in State this season. Periphyllus lyropictus (Norway-maple aphid) keeping most trees sticky at Logan, Cache County; cars parked under trees sticky all season. (Knowlton). NEW MEXICO - Macrosiphum rosae (rose aphid) very heavy on commercial roses; effective control difficult. (Heninger). WISCONSIN - Population of M. liriodendri (tuliptree aphid) reduced on yellow-poplars in Madison; some diseased aphids present. Det. by L. M. Russell. (Wis. Ins. Sur.). FLORIDA - Cerataphis variabilis adults scattered and severely damaging to leaves of adonidia palm (Veitchia merrillii) at Miami, Dade County. (Herrmann). ALABAMA - Pemphigus populitransversus (poplar petiole gall aphid) population extremely high; 100 or more galls on isolated poplar in De Kalb County. (Robinson, McCarter). VIRGINIA - Various species unusually active on scattered trees in James City County; light to heavy on American beech in Madison County. Infested silver maple in Mecklenburg County and present on white pines in Bedford County. (Forest Pest Sur. Rpt., Summ.; C. L. Morris; Va. Div. Forest., July). NEW YORK - Unspecified species damaging beech trees in Suffolk County and causing leaf drop on maples in Nassau County. (N.Y. Wkly. Rpt., Aug. 30).

WHITEFLIES - OHIO - Pealius azaleae (azalea whitefly) heavy on Chinese azaleas around some homes in Lake County September 2. (Kohankie). This is first ARS record in State. (ARS). UTAH - Aleuroplatus gelatinosus, Trialeurodes sp. and Tetralicia sp. moderate on evergreen oak in Zion National Park, Washington County, June 2. Det. by L. M. Russell. (Knowlton).

A LEAFHOPPER (Fieberiella florii) - KANSAS - Adults and nymphs feeding and causing some yellowing of cultivated roses in Riley County. (Blocker).

SPITTLEBUGS - GEORGIA - Caused heavy damage to hollies in nursery in Americus. (Smith). CALIFORNIA - Adults and nymphs of Clastoptera tricincta medium on acacia trees in Emeryville, Alameda County. (Cal. Coop. Rpt.).

TEA SCALE (Fiorinia theae) - ALABAMA - Crawlers heavy on camellias, Burford holly and other shrubs around homes, in city parks and in cemeteries throughout much of southern and central areas; considerable defoliation of many prize plants occurring. (McQueen). GEORGIA - Heavy on various ornamental plants in Americus. (Smith). SOUTH CAROLINA - Much more damaging than usual to hollies and camellias at Clemson. (Nettles et al., Aug. 31).

SOFT SCALES - MARYLAND - Immatures of Pulvinaria sp. heavy on red maple at University Park, Prince Georges County. (U. Md., Ent. Dept.). VIRGINIA - Ceroplastes floridensis (Florida wax scale) heavy on holly leaves in Norfolk. (Greenwood, Aug. 25). NORTH CAROLINA - Toumeyella liriodendri (tuliptree scale) infested poplars in Buncombe and Jackson Counties. (Hammond, Gibson, Robertson). FLORIDA - Saissettia oleae (black scale) and Syntomeida epilais jucundissima (a syntomid moth) caused severe damage to clump of oleander shrubs on campus of University of Florida, Gainesville, Alachua County. Aspidiotus hederae (oleander scale) present also. (Mead).

ARMORED SCALES - MARYLAND - Unaspis euonymi (euonymus scale) heavy on euonymus at Pikesville, Carroll County. Aspidiotus perniciosus (San Jose scale) infested weigelia at Rockville, Montgomery County. (U. Md., Ent. Dept.). VIRGINIA - Lepidosaphes ulmi (oystershell scale) heavy on boxwood locally in Caroline County. (Forest Pest Sur. Summ.; C. L. Morris; Va. Div. Forest., July). NORTH CAROLINA - Chrysomphalus obscurus (obscure scale) infested maple in Sampson County. (Scott). FLORIDA - Odonaspis penicillata caused severe damage to stem of bamboo in nursery at Samsula, Volusia County. (Pott).

MEALYBUGS - IDAHO - Infested honeysuckle at Bonners Ferry. (Ingle). WISCONSIN - Pseudococcus maritimus (grape mealybug) heavy on commercial taxus in Dane County; severe on planting in Green County. (Wis. Ins. Sur.). FLORIDA - All stages of Antonina bambusae caused moderate to severe damage to stems of bamboo in nursery at Samsula, Volusia County. (Potts).

A COREID BUG (Leptoglossus zonatus) - ARIZONA - Feeding on pomegranates in Yuma, Yuma County. Moderate in Phoenix and Chandler, Maricopa County. (Ariz. Coop. Sur.).

AZALEA CATERPILLAR (Datana major) - ALABAMA - Heavy locally on azaleas in Geneva County. (Reynolds). GEORGIA - Light on azalea foliage in Clayton County. (Tucker)

HOLLYHOCK WEEVIL (Apion longirostre) - UTAH - Light at Erda and noted at Tooele, Tooele County. This is a new county record. (Knowlton).

SAWFLIES - WISCONSIN - Second generation of Caliroa cerasi (pear-slug) appearing on cotoneaster in Dane County. Larvae, possibly Endelomyia aethiops (rose-slug), numerous on roses in Calumet County. (Wis. Ins. Sur.). CALIFORNIA - Cladius isomerus (bristly rose-slug) larvae heavy along narrow guage railroad in Oakland, Alameda County. (Cal. Coop. Rpt.).

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - MISSOURI - Infesting chrysanthemums in Fulton area, Callaway County. (Thomas).

SPIDER MITES - GEORGIA - Heavy on hollies at Rock Eagle. (Smith). NEW YORK - Causing problems on some chrysanthemums in Suffolk County. (N.Y. Wkly. Rpt., Aug. 30).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MINNESOTA - Total of 1,984 larval collections made by Metropolitan Mosquito Control District week ending August 28; Aedes vexans in 491, Culex territans in 526 and C. tarsalis in 180 collections. Light traps yielded 5,706 females; 4,234 A. vexans, 468 Anopheles walkeri, 304 Culiseta inornata and 110 Culex tarsalis. In 31 evening biting collections, 149 females taken; A. vexans predominant (133 specimens) and 2-3 each of Anopheles walkeri, Culex salinarius, C. tarsalis and Culiseta inornata also taken. In 127 daytime bite collections 998 taken; Aedes vexans 775, A. cinereus 40, A. triseriatus 38, A. trivittatus 46, A. excrucians 12, A. stimulans 15 and A. sticticus (floodwater mosquito) 11. Cool weather delayed Aedes spp. larval development significantly during week permitting suppression of extensive brood which partly hatched August 13. (Minn. Ins. Rpt.). UTAH - Especially troublesome at Grantsville, Tooele County, during August. Troublesome about Bountiful area and spottedly numerous on farms in Davis County. (Knowlton). NEVADA - Aedes dorsalis and A. nigromaculis adults heavy in Dixie Valley, Churchill County. (Bechtel, Martinelli). A. dorsalis adults light locally in Las Vegas, Clark County, and Anopheles sp. and Culex tarsalis adults medium in areas of Las Vegas. (Milner). NEW MEXICO - Heavy in cotton fields bordered by salt-cedar in southern Dona Ana County. (N.M. Coop. Rpt.). OKLAHOMA - Adults very numerous in Frederick area of Tillman County; probably due to recent rains

in area. Population expected to increase in much of State after rains of past week. (Okla. Coop. Sur.). MARYLAND - Culex spp. problem in some residential areas of Prince Georges County. (U. Md., Ent. Dept.)

FACE FLY (Musca autumnalis) - UTAH - Taken at Deweyville, Box Elder County; this is a new county record. (Knowlton, Hanson). WYOMING - None found on steers in feedlot at Torrington, Goshen County. (Marks). MISSOURI - Adults per face in population studies averaged 6 in Randolph, 22 in Macon and 3 in Adair Counties, August 30. Counts in Adair County under windy, rainy conditions. Averaged less than 1 per head on herd in Boone County August 27. (Thomas). ILLINOIS - None found on 4 herds in southern area. (Ill. Ins. Rpt.). MARYLAND - Ranged 3-16 per head on dairy cattle in Frederick County. (U. Md., Ent. Dept.).

HOUSE FLY (Musca domestica) - OKLAHOMA - Increased considerably in untreated barns in Payne County. Heavy around homes and dairy barns in Beaver County. (Okla. Coop. Sur.). UTAH - Numerous about dairy farm at North Farmington, Davis County. (Knowlton). Numerous about several dairy farms in Holladay-West Jordan area, Salt Lake County. (Rose, Knowlton). WYOMING - Increasing on livestock in southeast areas; ranged 40-150 per cow. (Marks)

HORN FLY (Haematobia irritans) - UTAH - Noted about dairy farm at North Farmington, Davis County. Moderately numerous on dairy cows and often numerous on beef animals in southern part of Salt Lake County. (Knowlton). KANSAS - Heavy in Riley County. (Pitts). OKLAHOMA - Averaged 1,000 per head on steers in Payne County and 200 per head on cows in Rogers County. Heavy in Cotton County; moderate in Mayes and Cleveland Counties and light in Beaver County. (Okla. Coop. Sur.). TEXAS - Heavy on cattle not sprayed recently in Denton County. (Turney). ILLINOIS - Ranged 10-500 (averaged 119) per animal on cattle in southern area. (Ill. Ins. Rpt.). MARYLAND - Ranged 40-100 per head in 2 dairy herds in Frederick County. (U. Md., Ent. Dept.).

STABLE FLY (Stomoxys calcitrans) - UTAH - Unusually numerous about some dairy farms at West Jordan and moderately numerous at Holladay, Salt Lake County. (Knowlton). WYOMING - Adults ranged 18-25 per animal in feedlots at Torrington, Goshen County. (Marks.). KANSAS - Heavy in Riley County. (Pitts). MISSOURI - Larvae and pupae light (1-6 per square foot) in untreated areas near barns at Missouri State Fairground at Sedalia, Pettis County. Adult populations in building and on animals very light. (Anderson, Peters). MARYLAND - Average 22 per head in 5 dairy herds in Frederick County. (U. Md., Ent. Dept.).

BLACK FLIES - UTAH - Swarmed about cattle at Honeyville, Box Elder County. Many entered ears of cattle; 15-35 swarming about animal's head not uncommon, in addition to flies on skin and in ears. (Knowlton).

TABANID FLIES - ILLINOIS - Horse flies ranged 0-1 per animal on cattle in southern area. (Ill. Ins. Rpt.). OKLAHOMA - Tabanus spp. ranged 2-3 per head on cattle in southeast. T. abactor, T. sulcifrons and T. lineola (striped horse fly) predominant. Averaged one or less per head in Payne County; T. abactor dominant. (Okla. Coop. Sur.). UTAH - Very troublesome in several areas of Tooele County during summer including Grantsville-Timpie and some Skull Valley areas. (Knowlton).

SHEEP BOT FLY (Oestrus ovis) - INDIANA - Adults becoming common in Lafayette area, Tippecanoe County; fully grown larvae noted on lot of ewe lambs. (Chandler).

A FLESH FLY (Wohlfahrtia vigil) - IOWA - Larvae removed from lesions in skin of dog at Henderson. (Iowa Ins. Inf., Aug. 16).

BITING MIDGES (Leptoconops spp.) - ARIZONA - L. torrens nuisance in Sabina Canyon area in Pima County. (Ariz. Coop. Sur.). UTAH - Undetermined species reported in CEIR 15(24): 621 determined as L. kerteszi by W. W. Wirth. (Knowlton).

FLEAS - MARYLAND - Infesting home in Baltimore. (U. Md., Ent. Dept.). IOWA - Ctenocephalides spp. infesting homes in all sections. (Iowa Ins. Inf., Aug. 16).

OKLAHOMA - Reports of Ctenocephalides spp. in homes of returning vacationers continue. (Okla. Coop. Sur.).

WASPS - INDIANA - Vespula maculifrons unusually common around homes; fallen fruit not attracting workers. Principal food source apparently Stomoxys calcitrans (stable fly). (Chandler). MISSOURI - Several reports of wasps as problems in homes in Columbia area, Boone County, noted. (Thomas).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Adults rare (less than 1 per 10 head) on cattle checked in southeast area. Larvae and nymphs range up to several hundred per head. (Okla. Coop. Sur.).

BROWN DOG TICK (Rhipicephalus sanguineus) - MISSOURI - Present on dogs in homes in Boone County. (Thomas).

A BROWN SPIDER (Loxosceles reclusa) - ILLINOIS - Collected in clothes closets in homes in Columbia, Waterloo and Red Bud areas in late July by F. Kadeleck; det. by J. Unzicker. Red Bud, Monroe County, is a new county record. (Ill. Ins. Rpt.).

HOUSEHOLD AND STRUCTURAL INSECTS

CRICKETS - NEVADA - Large numbers of nymphs entering yards and homes in northwest Reno, Washoe County. (Sullivan). COLORADO - Gryllus spp. (field crickets) numerous around homes in Mesa County. Controls necessary. (Bulla). IOWA - Invading homes and basements. (Iowa Ins. Inf., Aug. 16). OKLAHOMA - Gryllus spp. numbers continue increase around homes and lights at night in many areas of State. (Okla. Coop. Sur.). ARIZONA - Heavy numbers of Gryllus spp. migrating into residential areas in Yuma, Yuma County. (Ariz. Coop. Sur.).

EARWIGS - NEW YORK - Problem around homes in Suffolk County. (N.Y. Wkly. Rpt., Aug. 30). UTAH - Extremely abundant about numerous homes in Holladay-Mill Creek area of Salt Lake County. (Knowlton). ARIZONA - Labidura riparia migrating indoors and troublesome to homeowners in Pima, Pinal and Maricopa Counties. (Ariz. Coop. Sur.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - NORTH CAROLINA - Adults troublesome in Henderson and Buncombe Counties. (Robertson). VIRGINIA - Entering homes in Roanoke, James City and Dickenson Counties. (Isakson, Bryant, Bolt). OHIO - Entered home in Ironton, Lawrence County. (Crawford, Jones).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - MICHIGAN - Bothersome in rural homes in Livingston County. Counts of 150 per night common. (Newman). IOWA - Entering homes and causing concern. (Iowa Ins. Inf., Aug. 16).

AN APHID (Lachnus salignus) - WISCONSIN - Crawling into houses in Lincoln County and causing concern. (Wis. Ins. Sur.).

ASSASSIN BUGS - MICHIGAN - These and many species of plant bugs invading buildings and dwellings in larger numbers than in previous years. Complaints seem more numerous in dry areas of State. (Janes).

BOXELDER BUG (Leptocoris trivittatus) - MARYLAND - Annoying about property near Cambridge, Dorchester County. (U. Md., Ent. Dept.).

A FALSE CHINCH BUG (Nysius sp.) - NEVADA - Continues problem in homes and gardens in Reno, Washoe County. (Coop. Rpt.).

FUNGUS GNATS - GEORGIA - Moderate numbers present in and around homes in Newton County. (Hunt).

EASTERN SUBTERRANEAN TERMITE (Reticultiermes flavipes) - WISCONSIN - Found in building in Tomah, Monroe County. This is a new county record. (Wis. Ins. Sur.).

PACIFIC DAMPWOOD TERMITE (Zootermopsis angusticollis) - OREGON - Causing usual concern to homeowners in western section. Heavy flights reported from coast and many mid-Willamette Valley towns. (Larson, Capizzi).

CARPENTER BEE (Xylocopa virginica) - RHODE ISLAND - Large population causing problem in rustic buildings at boys' camp in Hopkinton, Washington County. (Mathewson).

CARPENTER ANTS (Camponotus spp.) - OREGON - Causing usual concern to homeowners in western section. Heavy flights reported from Pacific coast and many mid-Willamette Valley towns. (Larson, Capizzi). GEORGIA - Light in home in Berrien County. (Wood).

STORED-PRODUCT INSECTS

A SUBTERRANEAN TERMITE (Reticulitermes virginicus) - TEXAS - Heavy in stored cotton clothing from warehouses in Cooke County. (Texas Coop. Rpt., Newton).

A DARKLING BEETLE (Platydema ruficorne) - NORTH CAROLINA - Caused considerable damage to stored corn on Alexander County farm. Det. by D. A. Mount. (Laney).

A HAIRY FUNGUS BEETLE - IOWA - Infesting stored hay at Cresco. (Iowa Ins. Inf., Aug. 16).

STRAW ITCH MITE (Pyemotes ventricosus) - MISSOURI - Found in stored brome seed in Pilot Grove area, Cooper County. (Thomas).

BENEFICIAL INSECTS

LADY BEETLES - WASHINGTON - Hippodamia convergens (convergent lady beetle) adults averaged 35 per 5 sweeps in several large peppermint fields near Othello, Adams County, where fungus disease, lady beetles and other predators controlled extremely heavy infestation of Ovatus crataegarius (an aphid). (Landis, Aug. 30). CALIFORNIA - Stethorus picipes medium in corn plantings in Fresno, Fresno County. (Cal. Coop. Rpt.). NEW MEXICO - Counts per 25 sweeps in alfalfa ranged 4-7 in Bernalillo County and 3-4 in Chaves County. (N.M. Coop. Rpt.). WYOMING - All stages numerous in alfalfa, corn, sugar beets and potatoes in Laramie, Goshen and Platte Counties. (Marks). IOWA - Increased populations suppressed high aphid populations. (Iowa Ins. Inf., Aug. 16).

A SOLDIER BEETLE (Chauliognathus marginatus) - KANSAS - Very common in alfalfa fields in northeast; ranged 200-300 per 100 sweeps. (Simpson).

LACEWINGS - NEW MEXICO - Larvae and eggs very prevalent in alfalfa in Dona Ana County. (N.M. Coop. Rpt.). WYOMING - All stages of Chrysopa spp. (green lacewings) numerous in alfalfa, corn, sugar beets and potatoes in Laramie, Goshen and Platte Counties. (Marks).

DAMSEL BUGS (Nabis spp.) - WYOMING - All stages numerous in alfalfa, corn, sugar beets and potatoes in Laramie, Goshen and Platte Counties. (Marks).

CICADA KILLER (Sphecius speciosus) - KANSAS - Present in Riley County; causing some concern. (Brooks).

Beneficial Insects in Cotton - NEW MEXICO - Lady beetles, big-eyed bugs, green lacewings, damsel bugs and melyrid beetles (Collops spp.) prevalent in most cotton checked. (N.M. Coop. Rpt.). CALIFORNIA - Populations, particularly big-eyed bugs, apparently decreased considerably in numbers in Kern County. (Black, Aug. 25). Orius sp. (an anthocorid bug) very abundant in many fields in Kern County, being extremely abundant in some west side area situations; Nabis ferus (a damsel bug) quite abundant in cotton in much of county. (Leigh, Aug. 25).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - RHODE ISLAND - Adults still found but scarce; did not build up to appreciable populations during summer. (Mathewson). VIRGINIA - Population in Augusta-Rockbridge area low again this season, probably due to dry weather. (Woodside). NORTH CAROLINA - Several adults trapped in Clay County. This is a new county record. (PPC So. Reg., July Rpt.). GEORGIA - Adult trapped at Thomson, McDuffie County. This is a new county record. (PPC So. Reg. July Rpt.). OHIO - Adults observed feeding on wild grape, elm, maple and corn silks and ear tips south of Damascus, Columbiana County; and on corn, cultivated grapes and sassafras foliage near Greenford, Mahoning County (Rose). Less damaging to corn in Mahoning County than in 1964 (Morrison). ILLINOIS - Total of 1,166 acres treated along throughways and expressways in Cook and Du Page Counties. (PPC Cent. Reg., July Rpt.). WISCONSIN - Single adult caught in trap in Milwaukee area, probably introduced accidentally. (Wis. Ins. Sur.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - ALABAMA - Found in Coosa, Lawrence, Lauderdale and Winston Counties. These are new county records. (PPC So. Reg., July Rpt.). MISSISSIPPI - Found in Tippah County. This is a new county record. (PPC So. Reg., July Rpt.). LOUISIANA - Found in Caldwell and Franklin Parishes. These are new parish records. (PPC So. Reg., July Rpt.).

A SNIPE FLY (Chrysopilus quadratus) - ALABAMA - Extremely large numbers of adults, tentatively identified this species, reported in Lee, Chambers, Clay, Chilton, Hale, Barbour, Coosa, Fayette and other counties. Emerging from sod for past 10-20 days; adults congregating in tremendous numbers on leaves of shrubs, trees and buildings. Unusual buildup probably due to excessive rains and moisture conditions earlier in year. (Harris et al.).

A LAKE MIDGE (Chironomus plumosus) - WISCONSIN - Reported a problem in Lake Winnebago area; apparently the fourth generation. (Wis. Ins. Sur.).

DRONE FLY (Eristalis tenax) - OREGON - Large numbers of larvae, probably this species, found migrating from liquid manure tank into dairy buildings near Tillamook, Tillamook County. (Capizzi).

GROUND BEETLES - MISSOURI - Several species annoying in towns and cities in west central and southwest districts; large numbers attracted to neon and mercury vapor lights. (Houser).

A FUNGUS BEETLE (Alphitobius laevigatus) - IDAHO - Reported heavy in chicken house at Twin Falls. (Peay).

COWPEA APHID (Aphis craccivora) - CALIFORNIA - Heavy on puncture-vines in Healdsburg, Sonoma County. (Cal. Coop. Rpt.).

(Weather continued from page 1058).

HURRICANE BETSY: The center of large, severe, hurricane Betsy was moving westward across extreme southern Florida on Wednesday morning, September 8. Gale and hurricane winds and heavy rainfall were reported over a broad area of the lower Florida Peninsula and high storm tides were battering the coastline. The storm began an unusual movement toward the south, southwest, and finally west on September 5, this followed a "normal" northwestward passage during preceding days well to the east of the Bahamas. This rare movement toward the equator brought the large eye slowly through the northern Bahamas on the 6th and 7th. Early reports indicated winds ranged up to above 150 m.p.h. near the center. Storm-induced tides reached levels of 10 feet or more above normal. (Summary supplied by U.S. Weather Bureau).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight; I = incandescent; MV = mercury vapor; O = other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chortagrotis auxiliaris (large cutworm)	Estigmene acrea (salt-marsh caterpillar)	Feronia diffusa (white lined armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege comstitalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Perizoma sauvia (variegated cutworm)	Prodenia ornithogalli (yellow striped armyworm)	Protoparce sexta (tomato hornworm)	Protoparce quinquemaculata (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARKANSAS																							
Hope 8/26-9/1				10						0	38				0				11				
Morrilton 8/26-9/1				19						1	24				0				7				
Kelso 8/26-9/1				0						39	164				0				0				
Fayetteville 8/26-9/1				1						5	68				8				0				
FLORIDA																							
Gainesville 8/11,17, 25, 9/1			BL					16			35					16		3	1		70	1	
ILLINOIS (County)																							
Champaign 8/27-9/2	46-78	1.12		16							69			15	71	18		1	36		28		
INDIANA (Counties)																							
Posey 8/21-27			BL	35			14				361			4677	4		17	24	42				
Vanderburgh 8/21-27			BL	34			3				211			196	16		0	11	50				
Harrison 8/21-27			BL	58			30				110			51	10		31	39	60				
Dubois 8/21-27			BL	49			19				144			151	11		13	32	24				
Sullivan 8/21-27			BL	8			23				127			143	2		10	5	10				
Greene 8/21-27			BL	13			28				77			56	6		53	52	13				
Jackson 8/21-27			BL	30			9				180			54	22		46	47	48				
Switzerland 8/21-27			BL	140			2				99			20	36		5	5	153				
Franklin 8/21-26			BL	16			8				21			15	2		19	21	54				
Parke 8/21-27			BL	17			6				27			15	6		36	70	16				
Shelby 8/21-27			BL	19			7				9			14	17		14	8	27				
Hamilton 8/21-27			BL	17			15				16			19	7		25	27	19				
Tippecanoe 8/21-27			BL	22			1				136			37	13		4	2	50				
Wells 8/21-27			BL	13			3				1			29	4		1	3	18				
Jasper 8/21-22,26,27			BL	3			0				4			35	3		1	1	6				
Allen 8/21-27			BL	2			0				0			7	1		1	0	3				
Lake 8/21-25			BL	4			4				3			5	2		1	0	6				
St. Joseph 8/21-23, 25-27			BL	7			0				20			52	5		3	0	23				
Lagrange 8/21-27			BL	6			1				3			87	2		1	1	6				
MARYLAND																							
Centreville 8/25-31			BL	51							660			198	16		spp. 26		195		39		
Snow Hill 8/24-30			BL	41							847			658	43		17		143		54	27	
MASSACHUSETTS																							
East Wareham 8/28-9/3			2BL								1						1		8				
MICHIGAN (Counties)																							
Berrien 8/24-30			BL	9										19	7	5			16				
Branch 8/24-30			BL	3										18	9	3			13				
Kalamazoo 8/24-30			BL	3										13	3	0			4				
Jackson 8/24-30			2BL	10										63	4	4			11				
Livingston 8/24-30			BL	7										28	8	4			8				
Ionia 8/24-30			BL	11										27	8	1			12				
Saginaw 8/24-30			BL	7										19	9	0			7				
Sanilac 8/24-30			BL	8										29	4	2			27				
Ogemaw 8/24-30			BL	9										0	3	0			7				
Newaygo 8/24-30			BL	8										30	5	2			6				

LIGHT TRAP COLLECTIONS

	Temperature °F	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (gray cutworm)	Euliemne acres (alfalfa-mars caterpillar)	Faronia diffusa (quiet lund sireworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege comstockiis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
MICHIGAN (continued)																							
Iron 8/24-30			BL	5										0	4	0			4				
Menominee 8/24-30			BL	11										0	5	0			12				
Wayne 8/24-30			BL	13										27	7	1			12				
MINNESOTA																							
Crookston 8/14-20				1					0					10	24	1			2				
Fergus Falls 8/14-20				8					0					6	25	0			1				
Rochester 8/14-20				1					0					42	18	0			5				
Shakopee 8/14-20				0					1					14	0	0			1				
Worthington 8/14-20				2					0					349	1	2			11				
MISSISSIPPI																							
Stoneville 8/27-9/2	60-95	0.27	2BL	14			9		211	22	245				4	192	4	18	33	519	53	8849	
Rolling Fork 8/27-9/2	61-93	0.08	BL						48	16	197					40	3	20	56	184	72	11679	
Tunica 8/27-9/2	57-95	1.80	BL	40			6		248	25	764				2	96	2	44	50	34	64	1188	
MISSOURI																							
Portageville 8/28-9/2			BL	10							105			232	1				9				
NEBRASKA																							
North Platte 8/7-13				65				7			6			40	125	12	2		85				
North Platte 8/14-20				46				10		3	15			30	81	39	2	4	53		6		
OHIO (Counties)																							
Licking 8/26-30			BL													1			4				
Wayne 8/26-9/1			BL	4											2	1	3		2				
Franklin 8/29-9/1			BL	6				24			6				5	4			8		9		
SOUTH DAKOTA																							
Brookings 8/27,31, 9/1-2			BL	15					sp. 260										24				
TENNESSEE (Counties)																							
Knox 8/24-30				12							106				10	68	6	4	8		8		
Johnson 8/24-30				26							18				32	27	12	3	56		31		
TEXAS																							
Waco 8/25-9/3				24			13		63	73	314				26	14			37	0	0	520	
WISCONSIN																							
Platteville 8/25-31			BL	2							8			52	6				11				
Darien 8/24-30			BL								0			6					30				
Janesville 8/24-30			BL								0			6					6				
Evansville 8/24-30			BL								0			3					21				
Mazomanie 8/25-29			BL	0							1			12	0				3				
Madison 8/25-31	35-83		BL	21	10						1			16	5				24				
Middleton 8/25-31			BL	1	5						2			10	1				6				
Oakfield 8/24-30			BL								14			2					24				
Arlington 8/24-30			2BL	1							35			246					90				
Beaver Dam 8/24-30			BL								5			22					3				
Fox Lake 8/24-30			BL								3			121					36				
Hancock 8/25-31			BL	1							1			27	1				1				

LIGHT TRAP COLLECTIONS

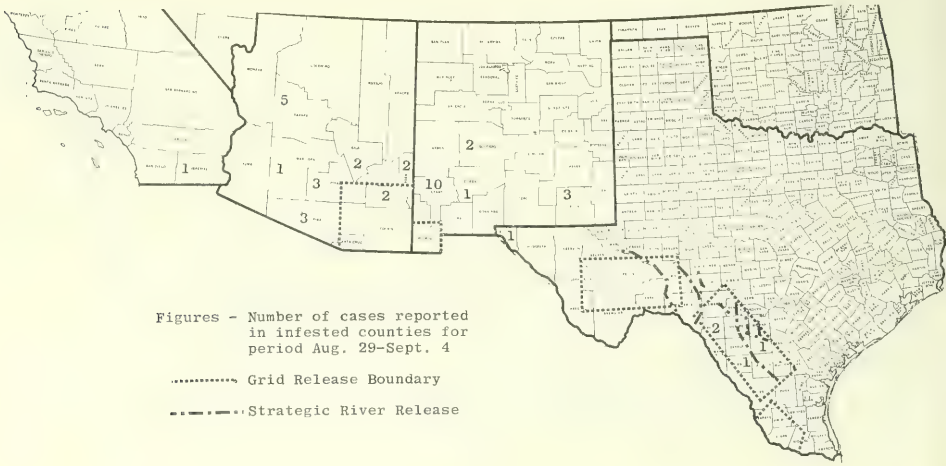
	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiralis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
WISCONSIN (continued)																								
Wayne 8/24-30			BL								0				5				9					
Theresa 8/24-30			BL								1				3				3					
Nenno 8/24-30			BL								0				2				7					
Ripon 8/17-23			BL								6				80				81					
Rosendale 8/17-23			BL								3				87				119					
Waldo 8/24-30			BL								2				1				20					

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period August 29-September 4, a total of 40 cases was reported in the Southwestern Eradication Area as follows by State and county: TEXAS - Kinney 2, Dimmit, El Paso and Frio 1 each; NEW MEXICO - Grant 10, Eddy 3, Socorro 2 and Sierra 1; ARIZONA - Yavapai 5, Pima and Pinal 3 each, Graham, Gila and Greenlee 2 each, and Maricopa 1; CALIFORNIA - Imperial 1. The Republic of Mexico reported 189 cases: Sonora 20, Chihuahua 21, Nuevo Leon 2, Durango 32, Coahuila 3, Veracruz 3, San Luis Potosi 6, Baja California 2, Territorio sur de Baja California 78, and Sinaloa 22. Sterile screw-worm flies released: Texas 16,246,250, New Mexico 6,400,000, Arizona 14,180,000, California 640,000 and Mexico 66,820,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	123	2643	79	4786	155.69	55.22
1964	0	105	52	4381	0.00	2.39
1965	40	620	20	3733	200.00	16.60
Table 2. Comparison of specimens reported during corresponding weeks and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	311	1890	68	1445	457.35	130.79
1965	152	3402	29	1679	524.13	202.62
Table 2A. Mexican portion of Barrier Zone only.						
1964	298	1708	53	659	562.26	259.18
1965	126	2900	13	639	969.23	453.83

* Barrier Zone --- Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm population in the United States. (Anim. Health Div.).



INTERCEPTIONS OF SPECIAL INTEREST AT U. S. PORTS OF ENTRY

Some important interceptions that were reported by the Plant Quarantine Division, ARS, USDA, during July 1965, follow. These reports are based on indentifications received from Federal taxonomists at the U. S. National Museum during the month, and include any of special interest from recent months that were not previously reported.

GIANT AFRICAN SNAIL (Achatina fulica Bowdich) twice in air passengers' baggage at Honolulu, Hawaii.

LEEK MOTH (Acrolepia assectella (Zell.)) once in air passenger's baggage at New York, New York.

CHINESE ROSE BEETLE (Adoretus sinicus (Burm.)) 3 times in air passengers' baggage at Honolulu, Hawaii.

A DARKLING BEETLE (Blapstinus sp.) (of some apparent economic significance to certain field crops in Chile) 11 times; 9 times at New York, New York, and once each at Laredo, Texas, and West Palm Beach, Florida.

SEED BEETLES (Bruchus spp.) - B. ervi Forel once in mail at New York, New York; once in ship's stores at Savannah, Georgia. B. signaticornis Gyll. (pest of lentils in central European and Mediteranean areas) 4 times in passengers' baggage; Chicago (1), Illinois; John F. Kennedy International Airport (2) and New York (1), New York. B. tristiculus Fahr. once in air baggage at John F. Kennedy International Airport.

PEACH FRUIT MOTH (Carposina niponensis Wlsm.) once in ship's stores at Galveston, Texas.

MEDITERRANEAN FRUIT FLY (Ceratitis capitata (Wied.)) 16 times; 14 times at Honolulu, Hawaii, and one time each at McGuire AFB, New Jersey, and at San Pedro, California.

A WIREWORM (Conoderus rufangulus (Gyll.)) twice at New York, New York.

AVOCADO SEED WEEVILS (Conotrachelus spp.) - C. aguacatae Barber twice at Laredo, Texas. C. perseae Barber once in air baggage at Miami, Florida.

MELON FLY (Dacus cucurbitae Coq.) once in ship's stores at San Pedro, California.

ORIENTAL FRUIT FLY (Dacus dorsalis Hendel) 16 times; once in mail and 15 times in air passengers' baggage at Honolulu, Hawaii.

LIGHT-BROWN APPLE MOTH (Epiphyas postvittana (Wlk.)) once in cargo on apple fruit at Seattle, Washington.

AN ANOBIID BEETLE (Ernobius sp., probably abietis (F.)) 2 times in spruce and pine cones at John F. Kennedy International Airport, New York.

A TORTRICID MOTH (Gymnandrosoma sp. (G. aurantianum Costa Lima is a citrus pest of some signifcance from Mexico throughout South America)) 4 times; one time each at Chicago, Illinois; Houston, Texas; John F. Kennedy International Airport, New York; and Pensacola, Florida.

A HEPIALID MOTH (Hepialus sp.) once in cargo of Liatris sp. at Hoboken, New Jersey.

BEAN BUTTERFLY (Lampides boeticus (L.)) 3 times in air baggage at Honolulu, Hawaii.

OLETHREUTID MOTHS - Grapholitha sp. once in cargo of apples at Honolulu, Hawaii. Matsumuraeses phaseoli (Mats.) once in ship's stores at Seattle, Washington.

A SEED CHALCID (Megastigmus sp.) 3 times in spruce seeds at Hoboken, New Jersey.

A SCARAB (Melolontha sp.) once in air baggage at John F. Kennedy International Airport, New York.

A CECIDOMYIID MIDGE (Plemeliella abietina Seitner) 15 times in seed of Picea spp. at Hoboken, New Jersey.

A WEEVIL (Premnotrypes sp.) 3 times in potatoes in ships' stores; one time each at Baltimore, Maryland; Mobile, Alabama; and Wilmington, North Carolina.

EUROPEAN CHERRY FRUIT FLY (Rhagoletis cerasi (L.)) 3 times; once in air baggage at Chicago, Illinois; 2 times at John F. Kennedy International Airport, New York.

A STENOMID MOTH (Stenoma catenifer (Wlsm.)) 5 times; Brownsville (1), Texas; Miami (4), Florida.

A FRUIT-TREE SPIDER MITE (Tetranychus viennensis Zacher) once on apple fruits at Seattle, Washington.

WHITE GARDEN SNAIL (Theba pisana (Muller)) 9 times (4 alive, 5 dead); Boston (1), Massachusetts; Charleston (1), South Carolina; Hoboken (1), New Jersey; Miami (1), and Port Everglades (1), Florida; Mobile (1), Alabama; Norfolk (3), Virginia.

KHAPRA BEETLE (Trogoderma granarium Everts) 54 times; Baltimore (4), Maryland; Boston (1), Massachusetts; Charleston (11), South Carolina; Cleveland (2), Ohio; Detroit (2), Michigan; Dulles International Airport (3), Virginia; Hawaii (1); New Orleans (4), Louisana; New York (11), New York; Philadelphia (2), Pennsylvania; Port Everglades (1) and Tampa (2), Florida; Portland (2), Oregon; San Diego (1), San Francisco (1) and San Pedro (2) California; Savannah (2), Georgia; Seattle (1), Washington; Wilmington (1), North Carolina.

OAT CYST NEMATODE (Heterodera avenae) once at San Francisco, California.

GRASS CYST NEMATODE (Heterodera punctata) 2 times; once each at San Diego, California, and at John F. Kennedy International Airport, New York.

GOLDEN NEMATODE (Heterodera rostochiensis) 21 times; San Francisco (8), California; Boston (2), Massachusetts; Chicago (2), Illinois; Hoboken (2), New Jersey; John F. Kennedy International Airport (2), New York; Baltimore (1), Maryland; Charleston (1), South Carolina; Hilo (1) and Honolulu (1), Hawaii; Jacksonville (1), Florida.

UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

Volume 15 September 17, 1965 Number 38

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

CORN EARWORM damage to sorghum heavy in Yuma Valley and other areas of Arizona; damaging corn in Utah and Idaho and soybeans in several other areas. (p. 1091, 1107). WESTERN CORN ROOTWORM adults abundant in corn and lodging heavy in northeastern and southwestern Iowa. (p. 1092). GRASSHOPPERS damaging various crops and range light to heavy in some areas; RED-LEGGED GRASSHOPPER remains dominant species in much alfalfa in Wisconsin. Grasshoppers reported severe in areas of South Dakota. (pp. 1093, 1098, 1107). PEA APHID remains high in alfalfa in areas of Ohio and lush growth of this crop in Indiana prompted considerable increase in numbers. Predators numerous in some areas. (p. 1093). THREE-CORNERED ALFALFA HOPPER continues to increase in Arizona, with severe damage reported in some fields. ALFALFA CATERPILLAR adults continue large flights in Arkansas Valley of Colorado and in areas of Arizona. (p. 1094). VELVETBEAN CATERPILLAR, CABBAGE LOOPER and *Psudoplusia includens* (a looper) continue heavy in soybeans in southern Alabama. (p. 1095).

EUROPEAN RED MITE still abundant on apples in Ohio; winter eggs common in Michigan. (p. 1095). CITRUS FLAT MITE economic on Yuma Mesa and CITRUS THRIPS general throughout citrus area of Yuma County, Arizona. (p. 1096). TWO-SPOTTED SPIDER MITE heavy and damaging beans at Caruthers, California. (p. 1098).

BOLL WEEVIL continues damaging in some cotton areas, especially to younger cotton; increasing in untreated cotton below and along edge of Caprock in western Texas. Moths of BOLLWORMS active in some cotton; egg counts increased in Oklahoma; control of larvae generally unsatisfactory in part of San Joaquin Valley, California. BOLLWORM (*Heliothis zea*) increasing in most cotton-growing areas of Arizona; damage noted. CABBAGE LOOPER common in most cotton in San Joaquin Valley, California; abundant in many instances. (pp. 1098, 1099).

LARCH SAWFLY caused more widespread and heavier defoliation of larch in Pennsylvania than ever recorded; some mortality evident and future planting of extensive areas of larch in State should be viewed with caution. ELM LEAF BEETLE apparently killing young elms in New Mexico where infestations severe during past 2 years. (p. 1101). FALL CANKERWORM defoliation will exceed 500,000 acres in Pennsylvania this year. (p. 1102). GYPSY MOTH considered eradicated in Michigan. BAGWORM extremely serious on Eastern Shore of Virginia this season and expected to be serious in 1966 if coming winter is not severe. A LEAF ROLLER MOTH (*Croesia semipurpurana*) defoliated more than 500,000 acres of species in the red oak group in Pennsylvania; extensive oak mortality appeared in July in areas continuously defoliated. (p. 1103).

MOSQUITOES remain annoying in some areas, with increases reported. (p. 1104). Acreage newly infested by JAPANESE BEETLE in 1965 smallest for single year since 1958 in Michigan. (p. 1106).

DETECTION

A FALSE SPIDER MITE (*Pentamerismus taxi*) reported for first time from Illinois. (p. 1104). New county records for WESTERN CORN ROOTWORM (*Diabrotica virgifera*) were Johnson, Louisa, Scott, Jackson, Jones, Van Buren, Lee, Des Moines, Dubuque, Fayette, Winneshiek and Washington Counties, Iowa; and Knox County, Illinois. (p. 1092).

CORRECTIONS and ADDITIONAL NOTES

See pages 1106 and 1107 respectively.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1110).

A Survey to Determine the Abundance of Forage Crop Insects in Western Massachusetts in the Spring of 1965. (pp. 1111, 1112).

Reports in this issue are for the week ending September 10 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 13

HIGHLIGHTS: (1) Hurricane Betsy hits extreme southern Florida and the central gulf coast. (2) Rains moderate to heavy, central and east. (3) Continued cool Far West and North Central.

TEMPERATURE: Cool, polar air covered the West and North Central areas most of the week. Temperatures averaged 12° below normal in central Montana and more than 6° below from the northern Rocky Mountains to the upper Mississippi Valley and in the southern Nevada-eastern California area. Freezing and frost occurred in scattered locations from Michigan westward to Washington and in the central Rocky Mountain States. For the 4 weeks ending September 13, Sioux City, Iowa, averaged 5° below normal and Des Moines 3° below; the eastern Dakotas were 6° below normal. The week was warm and humid in south central and eastern areas. Hot, sunny weather prevailed in eastern Texas and Oklahoma and central portions of Missouri, Illinois, and Indiana.

PRECIPITATION: Frequent, widespread rainfall during the week totaled over 0.75 inch from the Mississippi Valley eastward, except mostly under 0.5 inch in the Northeast and a few other coastal areas. Hurricane rains ranged from 2 to over 6 inches in extreme southern Florida and exceeded 2 inches in a 100 to 200-mile belt that followed the lower Mississippi and Ohio Valleys to southwestern Pennsylvania. This was the first big rain of the year in the Florida Everglades. Heaviest rains of the week, up to 10 inches or more fell in the Omaha area of Nebraska early in the week, when heavy thundershowers covered Iowa and nearby areas. Amounts in the West were generally light. Some snow fell in the higher mountains of Colorado. In the Northeast, rainfall ranged up to 0.5 to 1 inch in parts of New York, Vermont, New Hampshire, and Maine, with rain continuing in southern New England as the week ended. (Summary supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN EARWORM (Heliothis zea) - ARIZONA - Heavy and damaging sorghums in Yuma Valley and in northern Yuma County. Some fields heavily damaged in Mesa, Chandler, Deer Valley and Glendale areas of Maricopa County. Necessitated controls on peanuts on Yuma Mesa, Yuma County. (Ariz. Coop. Sur.). UTAH - Home garden corn 80-90 percent "wormy" in Davis County where no controls applied. (Rogers, Knowlton). IDAHO - In Canyon County, virtually 100 percent of ears of late-planted ensilage corn infested in large field in Arena Valley, with most larvae less than half grown (Waters); 85 percent of ears of sweet corn in field at Nampa damaged (Homan). WISCONSIN - Little change in infestations noted. Moth flight continues to increase, but apparently none but very late corn will be affected. (Wis. Ins. Sur.). MICHIGAN - Light but widely scattered sampling of adults taken in 4 blacklight traps. (See light trap collections, page 1108). Although sampling light, commercial sweet corn will need protective sprays if clean corn expected. (Newman).

OKLAHOMA - Averaged 3 per 10 row feet in Jackson County soybeans; ranged 3-5 per 10 sweeps in alfalfa in Jackson and Greer Counties. Of fourth and sixth-stage larvae collected in Jackson County alfalfa and taken into laboratory, 50 percent died of undetermined pathogen and 8 percent parasitized by a species of tachina fly and 2 species of Hymenoptera. (Okla. Coop. Sur.). ARKANSAS - Infestations declined in soybeans; appear to be over for season. Generally, infestations much lighter than in 1964. Moth numbers in soybeans also declined to relatively low level. Sugar line in soybeans in Jefferson County yielded 2 adults to 1,000 row feet September 6 compared with 30 adults previous week. Larvae built up to high numbers in late-planted combine milo. On September 7, field in Lee County had 60,928 larvae per acre in sorghum heads compared with 23,310 previous week. (Ark. Ins. Sur.). ALABAMA - Larvae continue to cause serious damage to pods of soybeans in southern part of State. (Vickery et al.). This and Feltia subterranea (granulate cutworm) heavily infested field of peanuts recently dug in Barbour County. (Cooksey, Cochran et al.). VIRGINIA - Light to medium in several fields of soybeans observed in Mecklenburg and Brunswick Counties and medium in Southampton and Nansemond Counties; ranged from 1 per 10 feet of row to 2 per 5 feet of row. Larvae heavy in field of peanuts in Nansemond County; averaged 3-4 per plant. (Isakson). Light in Middlesex County soybeans. (Edwards). Scattered numbers observed on soybeans on Eastern Shore; only occasional grower treated. (Hofmaster, Aug. 31). MARYLAND - Ear infestation heavy in sweet corn harvested first 2 weeks of September. Eggs observed on soybean pods near Harmony, Caroline County. (U. Md., Ent. Dept.). DELAWARE - Adults continue abundant in Sussex County blacklight trap collections; averaged over 80 per night September 4-10. Larvae present in soybeans in Kent and Sussex Counties. (Burbutis, Woodall).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Damaging field corn by feeding on crowns in Sanger and heavy feeding evident in alfalfa in Tranquillity, both in Fresno County. (Cal. Coop. Rpt.).

SORGHUM WEBWORM (Celama sorghiella) - ARKANSAS - Larvae built up to high numbers in late-planted combine milo. On September 7, field in Lee County had 20,160 larvae per acre of sorghum heads compared with 11,322 previous week. (Ark. Ins. Sur.)

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Adults very abundant in black-light trap collections in Sussex County; average 40 per night. (Burbutis, Woodall). VIRGINIA - Infesting sorghum at location in Southampton County; damage noted on most plants checked. (Isakson). INDIANA - Some scattered, light infestations observed in ears and ear stalks of field corn in northern areas of State. Highest infestations found 16 percent; however, averaged 2-4 percent in most fields infested. (Huber). WISCONSIN - Few fifth-stage larvae noted in more advanced areas of State, although most larvae in third stage in southern counties. Populations in sweet corn unchanged from previous week. Highest incidence encountered, 8 percent infestation in very late field in Rock County. Larvae still mostly in silks, although one instance of larva entering ear tip noted. (Wis. Ins. Sur.). NORTH DAKOTA - Check of field corn at Cavalier, Pembina County, showed 80 percent

of plants infested with 240 borers per 100 plants. Pupation 1 percent; most larvae in fifth stage and in diapause. Few fourth-stage larvae present. (Frye).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ARIZONA - Light to medium populations damaging corn and sorghum in Graham County and in Mesa-Chandler area of Maricopa County. (Ariz. Coop. Sur.).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - ALABAMA - Few larvae observed in maturing corn in Barbour County. (McQueen).

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - MARYLAND - Adults observed in field of corn and in corncrib at Lexington Park, St. Marys County. (U. Md., Ent. Dept.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - IOWA - Continued eastward movement in State. Reported for first time in Johnson, Louisa, Scott, Jackson, Jones, Van Buren, Lee, Des Moines, Dubuque, Fayette, Winneshiek and Washington Counties. Beetles abundant in corn and lodging heavy in northeastern and southwestern Winneshiek County. (Iowa Ins. Inf., Sept. 7). ILLINOIS - Found for first time in Knox County. (Ill. Ins. Rpt.).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - MARYLAND - Two adults collected from foxtail grass near field of corn at Cockeysville, Baltimore County. (U. Md., Ent. Dept.). Although not reported from this county in recent years, there is a specimen in the U. S. National Museum Collection dated August 1955 and collected by E. J. Gerberg. See CEIR 14(36): 1018 for first State record. (PPC).

SAP BEETLES - UTAH - Carpophilus lugubris (dusky sap beetle) infesting some field corn at Spanish Fork, Utah County. (Knowlton). OHIO - Late infestation of Glischrochilus quadrisignatus reported on corn silks at Defiance, Defiance County. (Wise).

CORN LEAF APHID (Rhopalosiphum maidis) - ARIZONA - Scattered infestations found in sorghums in boot stage in areas of Yuma County and in Glendale-Peoria area of Maricopa County. (Ariz. Coop. Sur.). UTAH - Light on corn checked in Clinton-Sunset area of Davis County. (Knowlton). OHIO - Although populations down, few fields still have 100 percent of corn plants infested; such field observed near Sparta, Morrow County. Small numbers of aphids present in concealed places on individual plants. (Rose).

A SPITTLEBUG (Prosapia bicincta) - ALABAMA - From 1 to 25 nymphs observed feeding in brace roots of each stalk of maturing corn in field in Barbour County. Considerable infestations continue to be reported near crown area of Coastal Bermuda grass in Monroe, Barbour and other counties. Also reported on many other grasses throughout southern portion of State. (Smith et al.).

SAY STINK BUG (Chlorochroa sayi) - UTAH - Generally low; damage to small grains and alfalfa seed limited. (Knowlton).

EARWIGS - UTAH - Very numerous in ears of sweet corn in Salt Lake and Davis Counties. (Knowlton).

SORGHUM MIDGE (Contarinia sorghicola) - ARIZONA - Two light infestations found on Johnson grass in Graham County near Solomon and Safford are first of season. (Ariz. Coop. Sur.)

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA Light on sorghum in Raisin City, Fresno County. (Cal. Coop. Rpt.). UTAH - [illegible]age to corn generally below normal. Caused some injury to outside rows of cannin[illegible]nd sweet corn in Clinton-Sunset area of Davis County and Kanesville-Plain Ci[illegible]ea of Weber County. (Knowlton). IDAHO - Probably this species, heavy in ma[illegible]elds of corn in Canyon County (Homan).

GRASSHOPPERS - MICHIGAN - Adults and nymphs of several species noted as heavier than usual in some fields of alfalfa in Shiawassee, Genesee and Monroe Counties checked September 7. Average of 2 per square yard estimated in some fields; averaged 2 adults and 4 nymphs per 10 sweeps in 2 fields sampled. (Newman). WISCONSIN - Nymphs of Melanoplus femurrubrum (red-legged grasshopper) still predominant in many fields of alfalfa; approximately 60 per cent in fifth instar. About 30 percent of females examined contained eggs. (Wis. Ins. Sur.). OKLAHOMA - Light to moderate damage to crops by several species reported in Cleveland and Bryan Counties. Grasshoppers range light to heavy in Garvin County. (Okla. Coop. Sur.). NEW MEXICO - Grasshoppers ranged moderate to heavy on total of 31,900 acres of rangeland in 5 counties. (N.M. Coop. Rpt.). UTAH - Adults economic on 215,625 acres of rangeland and 162,425 acres of cropland; ranged 8-15 or more per square yard. This is substantial reduction compared with 1964 infestation. Crop and range damage during 1965 estimated to exceed 2,500,000 dollars. (Thornley, Knowlton). Grasshoppers, particularly Melanoplus sanguinipes (migratory grasshopper), remain numerous about some farms. (Knowlton). WYOMING - Adults of several species ranged 8-20 per square yard in alfalfa in Big Horn, Washakie and Hot Springs Counties. (Marks).

MORMON CRICKET (Anabrus simplex) - IDAHO - Fairly heavy populations discovered in West Mountain area of Gem and Adams Counties during August. Due to late hatch, crickets still in seventh instar and young adult stages. (PPC, Portman).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Spotted infestations reported over area of approximately 88 square miles in southeastern Colfax County. (PPC, N.M. Coop. Rpt.).

SOD WEBWORMS - MICHIGAN - Heavy flights of Crambus sp. indicated by blacklight trap collections in central area. (Newman). WISCONSIN - Unspecified species present in sufficient numbers to require controls in Kenosha County. (Wis. Ins. Sur.).

A FIERY SKIPPER (Hylephila phylaeus) - CALIFORNIA - Heavy locally in lawn in San Bernardino, San Bernardino County. (Cal. Coop. Rpt.).

CHINCH BUG (Blissus leucopterus) - DELAWARE - Abundant and causing heavy feeding injury in lawn in northern New Castle County. (MacCreary). INDIANA - Reported severely damaging lawn and moving into corn in Greentown area of Howard County. (Matthew).

A BILLBUG - UTAH - Larvae destroyed approximately two-thirds of large lawn in Salt Lake County; larvae now 75 percent pupated with some teneral adults present. (Knowlton, Burningham).

PEA APHID (Acyrthosiphon pisum) - OHIO - Remained high in alfalfa surveyed in Franklin, Morrow and Knox Counties. Averaged 28-40 per sweep. Lady beetles most numerous predators noted; populations highest (1-2 per sweep) in fields checked in Franklin and Morrow Counties. (Rose). MICHIGAN - Adults and nymphs ranged 25-250 (average 90) per 10 sweeps in central area alfalfa. Lady beetles and damsel bugs apparently keeping populations low as only few parasitized aphids noted and these in one field. (Dowdy). INDIANA - Cool temperatures and numerous showers promoted lush growth of alfalfa in northern third of State; thus populations increased considerably and now range 10-40 per sweep. (Huber). WISCONSIN - Remains very low in alfalfa; counts rarely exceed 8 per sweep. (Wis. Ins. Sur.). WYOMING - Remains low in alfalfa in Big Horn, Washakie and Hot Springs Counties; adults and nymphs ranged 26-58 per 100 sweeps. (Marks). NEW MEXICO - Mostly light, spotted infestations noted in Roosevelt County alfalfa. (Kloepfer). NEVADA - Very light in all alfalfa checked in Douglas County. (Bechtel, Weaver).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEVADA - Very light in all alfalfa checked in Douglas County. (Bechtel, Weaver). COLORADO - Populations in alfalfa declined in Prowers County due to wet, cool weather. (Fitzsimmons, Schweissing, Hantsbarger). OKLAHOMA - Infestations in alfalfa decreased over most of State. Reported as light in Payne and Garvin Counties. (Okla. Coop. Sur.).

WISCONSIN - Numbers probably at seasonal low; highest count 3 per sweep. Averaged 1 per sweep compared with 30 per sweep August 24 in fields checked periodically near Brodhead. Much of decrease attributed to heavy winds and rain. (Wis. Ins. Sur.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Adults and nymphs ranged 9-12 per 25 sweeps in alfalfa checked near Portales, Roosevelt County. (Kloepfer). ARIZONA - Decreased rapidly in most alfalfa examined in Graham, Yuma and Maricopa Counties. (Ariz. Coop. Sur.). UTAH - Several species abundant on sunflower heads at Willard and Mantua, Box Elder County. (Knowlton). NEVADA - Counts, mostly nymphs, varied 6-22 per sweep in maturing alfalfa in Douglas County. (Bechtel, Weaver).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Very common on alfalfa, soybeans and clover in several areas. (Burbutis, Woodall). OHIO - Populations in alfalfa remain relatively unchanged; averaged 1-2 per sweep in many fields in Franklin and Knox Counties. (Rose). MICHIGAN - Adults ranged 0-65 (average 17) per 10 sweeps in 9 fields of alfalfa checked in Genesee and Shiawassee Counties September 7. (Dowdy). INDIANA - Adults averaged 2 per sweep in alfalfa in northern third of State. (Huber).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - INDIANA - Averaged 3 adults per 5 sweeps in alfalfa in northern third of State. (Huber). MICHIGAN - Adults ranged 0-9 (average 4) and nymphs 0-3 (average 0.6) per 10 sweeps in 9 fields of alfalfa sampled September 7 in Shiawassee and Genesee Counties. (Dowdy).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Nymphs continue common in alfalfa in many southern areas. (Wis. Ins. Sur.). MICHIGAN - Adults ranged 0-15 (average 7.5) per 10 sweeps in 9 alfalfa fields checked September 7 in Genesee and Shiawassee Counties. (Dowdy). DELAWARE - Common on alfalfa, soybeans and clover in most areas. (Burbutis, Woodall).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Continues to increase in alfalfa in Yuma, Graham, Maricopa and Pinal Counties. Damage becoming severe in some fields. (Ariz. Coop. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Adults ranged 3-10 (average 6.2) per 10 sweeps in alfalfa in 9 central area fields sampled September 7. (Dowdy). ILLINOIS - Survey indicates only northwestern area extending to Boone County with light to moderate infestations. Remainder of State considered noneconomic to light. (Ill. Ins. Rpt.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Large adult flights still observed in many areas of Yuma and Graham Counties and in Mesa-Chandler area of Maricopa County. Light increase in larval population observed. (Ariz. Coop. Sur.). NEW MEXICO - Larvae ranged 3-5 per 25 sweeps in most alfalfa checked in Roosevelt County; adults moderately abundant. (Kloepfer). COLORADO - Adults very abundant in Arkansas Valley. (Thatcher).

GREEN CLOVERWORM (Plathypena scabra) - MARYLAND - Larvae light on soybeans near Harmony, Caroline County. (U. Md., Ent. Dept.). VIRGINIA - Light in most soybeans checked in Mecklenburg, Brunswick, Southampton and Nansemond Counties. (Isakson). Larvae present in soybeans in scattered numbers on Eastern Shore; some controls applied. (Hofmaster, Aug. 31). MICHIGAN - No economic problems known to exist in State; no larvae found in 3 fields of soybeans checked September 7 in Genesee and Shiawassee Counties, and only 1 larva per 10 sweeps found in 9 fields of alfalfa surveyed in these counties. Counts of 2 and 7 larvae per 25 feet made in 2 fields of soybeans in Monroe County. (Newman).

GRANULATE CUTWORM (Feltia subterranea) - ALABAMA - This and Heliothis zea (corn earworm) heavily infested field of peanuts recently dug in Barbour County. As many as 15 F. subterranea larvae per square foot observed in some areas of field; some larvae entering soil to pupate and few younger larvae eating into immature nuts where foliage destroyed by digging and curing process. (Cooksey, Cochran et al.).

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Larvae caused light damage to isolated fields of Coastal Bermuda grass in Dale County and present on some soybeans in Covington County. (Estes, Smith). VIRGINIA - Scattered on soybeans on Eastern Shore; controls occasionally applied. (Hofmaster, Aug. 31).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Continues heavy feeding on foliage of soybeans in southern part of State. (Vickery et al.).

CABBAGE LOOPER (Trichoplusia ni) - ALABAMA - This species and Pseudoplusia includens continue heavy on soybeans in southern part of State. (Vickery et al.).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - NEW MEXICO - Light to heavy damage found in terminal growth of peanut foliage in survey of fields in Roosevelt County. Infestation much heavier than at same time in 1964. (Nielsen, Kloepfer).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Reported heavy in alfalfa in local areas of Payne County. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - WYOMING - Adults ranged 60-85 and larvae 12-20 per 100 sweeps in alfalfa in Big Horn, Washakie and Hot Springs Counties. (Marks). COLORADO - Averaged 1 larva per sweep in Weld County alfalfa; various sizes present. (Simpson).

CLOVER ROOT CURCULIO (Sitona hispidula) - INDIANA - Adults average 2 per sweep in alfalfa throughout north central and northeastern sections of State. (Huber).

BEAN LEAF BEETLE (Cerotoma trifurcata) - INDIANA - Reported defoliating soybeans in areas of Monroe County. (Lehker). VIRGINIA - Light in most soybeans checked in Mecklenburg, Brunswick, Southampton and Nansemond Counties. (Isakson). Scattered numbers noted in soybeans on Eastern Shore. Few controls applied. (Hofmaster, Aug. 31).

MEXICAN BEAN BEETLE (Epilachna varivestis) - VIRGINIA - Heavy in field of soybeans in Brunswick County; light in most other fields surveyed. (Isakson).

BLISTER BEETLES (Epicauta spp.) - UTAH - E. maculata (spotted blister beetle) moderate and E. pennsylvanica (black blister beetle) light in most alfalfa; moderately heavy in occasional field when in blossom. (Knowlton). OKLAHOMA - Epicauta spp. moderate in alfalfa in Garvin County. (Okla. Coop. Sur.). OHIO - E. pennsylvanica infesting field of alfalfa near Marion, Marion County. Feeding damage evident and population described as "thick". (Peacock).

WHITEFLIES - MARYLAND - Conspicuous on soybeans in Queen Annes County. (U. Md., Ent. Dept.).

FRUIT INSECTS

SPIDER MITES - OHIO - Panonychus ulmi (European red mite) still abundant on some apple varieties in Fairfield County (Holdsworth); populations generally declined at Wooster, Wayne County, although some apple blocks still show 50-100 mobile forms per leaf (Forsythe). INDIANA - Remain generally low in well tended orchards. P. ulmi averages 3-4 per leaf; Tetranychus telarius (two-spotted spider mite) averages 5-7 per leaf. (Cleveland). MICHIGAN - Adults and nymphs of P. ulmi and T. telarius persist on apples and plums in western section; winter eggs of P. ulmi common. (Wooley). IDAHO - Probably T. telarius, heavy in Italian prune orchards at Fruitland which received only one control application. (Homan).

CODLING MOTH (Carpocapsa pomonella) - OHIO - Larvae from unsprayed apple trees pupating in experimental orchard in Fairfield County. (Holdsworth). Larvae caused about 80 percent injury to unsprayed Rome and Cortland apple varieties and first-generation adult emergence almost complete at Wooster, Wayne County. (Forsythe).

A LEAF BLOTCH MINER (Lithocolletis sp.) - CALIFORNIA - Adults heavy on apple trees in Paradise, Butte County. (Cal. Coop. Rpt.).

PEAR-SLUG (Caliroa cerasi) - COLORADO - Damaging foliage of cherry and ornamental plum in several areas of State. (Hantsbarger). UTAH - Conspicuous damage noted to cherries and pears and some damage to plums in Brigham City-Willard area, Box Elder County. (Knowlton, Allred).

APPLE MAGGOT (Rhagoletis pomonella) - OHIO - Adults very numerous on early varieties of apples in commercial orchard near Rogers, Columbiana County. (Forsythe). WISCONSIN - Adults still appearing, although in greatly reduced numbers. (Wis. Ins. Sur.).

BROWN SOFT SCALE (Coccus hesperidum) - CALIFORNIA - Heavy on citrus in San Simeon, San Luis Obispo County. (Cal. Coop. Rpt.).

SIX-SPOTTED MITE (Eotetranychus sexmaculatus) - CALIFORNIA - Heavy on citrus trees in Oceanside, San Diego County. (Cal. Coop. Rpt.).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Economic infestations continue to be found on tangerines and lemons on Yuma Mesa, Yuma County. (Ariz. Coop. Sur.).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - General throughout citrus area of Yuma County. Many infestations detected in areas of Maricopa County. (Ariz. Coop. Sur.).

Citrus Insect Situation in Florida - End of August - CITRUS RUST MITE (Phyllocoptruta oleivora) infested leaves in 40 percent of groves (norm 59 percent); 20 percent economic (norm 38 percent); and infested fruit in 51 percent of groves (norm 67 percent); 33 percent economic (norm 48 percent). Population below average statewide; however, all districts have some heavy infestations. Increase expected in scattered groves, especially on fruit. Highest districts are south, west and central. TEXAS CITRUS MITE (Eutetranychus banksi) infested 13 percent of groves (norm 32 percent); 4 percent economic (norm 14 percent). Populations below average and will remain low through September in all districts. CITRUS RED MITE (Panonychus citri) infested 18 percent of groves (norm 39 percent); 6 percent economic (norm 20 percent). Current population below average and will remain low in all districts. BLACK SCALE (Saissetia oleae) infested 57 percent of groves (norm 38 percent); 32 percent economic (norm 18 percent). Population decreasing statewide but is above average for this time of year. Some groves have moderate to heavy infestations which are producing honeydew and contributing to sooty mold buildup. Most of these infestations are in subadult stage and will become more conspicuous when scales develop into dark colored adult forms. Highest districts central and east. Other districts are south, north and west. YELLOW SCALE (Aonidiella citrina) infested 43 percent of groves; 13 percent economic. Population decreasing, but is above average. Highest district is central. GLOVER SCALE (Lepidosaphes gloverii) infested 37 percent of groves; 8 percent economic. PURPLE SCALE (Lepidosaphes beckii) infested 39 percent of groves; 4 percent economic. CHAFF SCALE (Parlatoria pergandii) infested 33 percent of groves; 3 percent economic. These three species are at low level in all districts. Little change expected. Adult WHITEFLIES infested 71 percent of groves; 12 percent moderate to heavy. Population below average; slight increase expected. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred)).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Increasing in walnuts in many northern counties. Population peak about week late in many locations and treatments delayed. Heavy numbers occurred in Morgan Hill, Santa Clara County; Livermore, Alameda County; and in peaches in St. Helena, Napa County. (Cal. Coop. Rpt.).

BLACK PECAN APHID (Melanocallis caryaefoliae) - CALIFORNIA - Heavy on pecan trees in Oroville, Butte County. (Cal. Coop. Rpt.).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Moderate on pecans in Cleveland and Washington Counties. (Okla. Coop. Sur.).

TWIG GIRDLER (Oncideres cingulata) - OKLAHOMA - Reported infesting English walnut trees in nursery in Oklahoma County. (Okla. Coop. Sur.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Heavy on pecans in Tulsa County. (Okla. Coop. Sur.).

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - Second-generation larvae appearing on pecans in Payne County. (Okla. Coop. Sur.).

HICKORY HORNED DEVIL (Citheronia regalis) - ALABAMA - Few larvae continue to be reported from Washington and other counties on pecan, hickory and other hardwood trees. (Hoomes et al.).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Second-generation larvae heavy on pecans in Okfuskee and Creek Counties. (Okla. Coop. Sur.). INDIANA - Larvae moved from some woodlots into adjacent blueberries in Plymouth area, Marshall County, and causing concern. (Matthew).

A SCARAB (Cotinis texana) - CALIFORNIA - Heavy adult population damaging ripening figs, peaches and other fruits in Vista-Escondido area, San Diego County. (Cal. Coop. Rpt.).

WESTERN GRAPE LEAF SKELETONIZER (Harrisina brillians) - UTAH - Damage light in "Dixie" area of Washington County. (Knowlton).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Causing medium damage to grapevines in San Jose, Santa Clara County. (Cal. Coop. Rpt.).

GRAPE LEAF FOLDER (Desmia funeralis) - CALIFORNIA - Larvae noted in vineyards in several locations in Fresno County. (Cal. Coop. Rpt.).

A LEAF ROLLER MOTH (Platynota stultana) - CALIFORNIA - Larvae found in vineyards in several locations in Fresno County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

GREAT BASIN WIREWORM (Ctenicera pruinina) - IDAHO - Probably this species causing very evident injury to potato tubers in Mountain Home area. (Thornton).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - MICHIGAN - Adults collected from potatoes and other host crops in a number of Lower Peninsula counties. (Rothney, Newman).

HORNWORMS (Protoparce spp.) - DELAWARE - P. sexta (tobacco hornworm) and P. quinquemaculata (tomato hornworm) larvae present to common on tomatoes in New Castle County. (Burbutis, Woodall). UTAH - P. quinquemaculata still causing light damage to tomatoes. (Dorst, Knowlton).

POTATO TUBERWORM (Gnorimoschema operculellum) - MICHIGAN - No field infestations observed or reported this season. (Newman).

POTATO APHID (Macrosiphum euphorbiae) - COLORADO - Numbers increased in San Luis Valley. Vines maturing and populations will not be problem. (Jenkins).

BEET LEAFHOPPER (Circulifer tenellus) - UTAH - Generally light in northern and central sections of State this season. Curly top on tomatoes averaged less than 1 percent in northern section and approximately 20 percent in southern section. (Dorst, Knowlton).

VINEGAR FLIES (Drosophila spp.) - UTAH - Eggs found in splits on rain-damaged tomatoes. (Dorst).

TOMATO FRUITWORM (Heliothis zea) - DELAWARE - Larvae noted on lima beans in Kent and Sussex Counties. (Burbutis, Woodall).

GREEN CLOVERWORM (Plathypena scabra) - VIRGINIA - Noted on fall snap beans on Eastern Shore. (Hofmaster, Aug. 31). MICHIGAN - No larvae found in 2 fields of navy beans in Genesee and Shiawassee Counties September 7. (Newman).

LOOPERS - VIRGINIA - Noted on fall snap beans on Eastern Shore; several fields required treatment. (Hofmaster, Aug. 31).

MEXICAN BEAN BEETLE (Epilachna varivestis) - DELAWARE - Very common on snap beans in area of Sussex County and present on some lima beans in Kent and Sussex Counties. (Burbutis, Woodall).

BEAN LEAF BEETLE (Cerotoma trifurcata) - VIRGINIA - Noted on fall snap beans on Eastern Shore. (Hofmaster, Aug. 31).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - UTAH - Lighter than normal on many home-grown beans in northern section. (Knowlton). CALIFORNIA - Heavy populations damaging beans in Caruthers, Fresno County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Present on cabbage in areas of New Castle County. (Burbutis, Woodall). VIRGINIA - Extremely dry weather caused tremendous populations and heavy damage to untreated cole crops on Eastern Shore. Virus infection virtually eleminated infestation in some areas. (Hofmaster, Aug. 31). MICHIGAN - Blacklight traps indicate first general moth flight of season occurred during week ending September 6. Flights to date seasonally low but heavy enough to warrant controls on susceptible crops. Larvae observed in 3 cabbage plantings in Monroe County September 7. (Newman).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - VIRGINIA - A major pest of young kale, collards and other greens crops on Eastern Shore. (Hofmaster, Aug. 31).

VARIEGATED CUTWORM (Peridroma saucia) - PENNSYLVANIA - Damaged leaf lettuce in Centre County August 23. (Udine).

FALL ARMYWORM (Hyphantria cunea) - VIRGINIA - A major pest of young kale, collards and other greens crops on Eastern Shore. (Hofmaster, Aug. 31).

A FLEA BEETLE (Phyllotreta cruciferae) - VIRGINIA - A major pest of young kale, collards and other greens crops on Eastern Shore. (Hofmaster, Aug. 31).

GREEN PEACH APHID (Myzus persicae) - DELAWARE - Present to common on young spinach in area of Kent County (MacCreary) and on peppers in Sussex County. (Burbutis, Woodall). COLORADO - Populations continue low. (Simpson).

WHITE GRUBS - IDAHO - Undetermined species attacking ripening watermelons in Hagerman Valley area, Gooding County, with heavy damage in one field. Injury to undersides of melons apparently allowed entry of decay organisms. (Koster).

TARNISHED PLANT BUG (Lygus lineolaris) - DELAWARE - Common on carrots in New Castle and Kent Counties and on lima beans in Sussex and Kent Counties. (Burbutis, Woodall)

ONION THRIPS (Thrips tabaci) - UTAH - Injury light at Hooper and Kanesville, Weber County. (Knowlton).

GRASSHOPPERS - UTAH - Conspicuously damaged raspberry foliage at Willard, Box Elder County. (Knowlton).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Cotton harvest well underway in southern part of State; extensive damage noted to numerous top bolls as result of extensive egg laying and feeding during past 3 weeks. Damage now occurring

on much cotton in northern area of State, especially in younger cotton and in low areas of fields. (Rutledge et al.). ARKANSAS - Local weevil migration still occurring in several areas as cotton continues to mature. Second growth in older fields may retain weevils longer; thus numbers will continue to increase and go into hibernation. Fields with young bolls should be watched and controls applied wherever necessary to protect bolls that will remain on plants and mature. (Barnes, Roberts, Sept. 3). OKLAHOMA - New punctures averaged 25 percent in untreated cotton in Jackson County; reported moderate and increasing in Bryan County; light (2-10 percent) in Beckham County. (Okla. Coop. Sur.). TEXAS - Increasing in untreated fields below and along edge of Caprock in western area. Light populations reported in cotton in Hall and Lamar Counties. (Texas Coop. Rpt.). LOUISIANA - Cotton "cutting out" rapidly. Fewer squares on plants resulting in higher punctured square counts in these fields than normal. Much weevil activity noted in squares in tops of plants. Weevil pressure will continue in late-planted cotton that is green and fruiting well. These fields should be treated until bolls are safe. (Tynes, Sept. 7).

A WEEVIL (Anthonomus sp.)- ARIZONA - Increasing in stub cotton in western Pinal County. Some controls applied. (Ariz. Coop. Sur.).

BOLLWORMS (Heliothis spp., et al.) - ARKANSAS - Moths still active in some cotton. Eggs may increase in fields with second growth or in younger cotton as moths concentrate in these fields. Moth numbers passed peak but still sufficiently heavy in some fields to result in damaging larval populations. (Barnes, Roberts, Sept. 3). OKLAHOMA - Egg counts increased to 20-30 percent in Jackson County cotton. Larval infestations range 10-20 precent in untreated fields. Reported light in Beckham County, light to moderate in Garvin County and light to occasionally heavy in Bryan County. (Okla. Coop. Sur.). TEXAS - Light infestations of H. zea (bollworm) reported from Hall and Lamar Counties. Activity decreased in areas below the Caprock in Dickens and Kent Counties where heavy egg hatches occurred 2 weeks previously. Populations remain light above the Caprock. (Texas Coop. Rpt.). CALIFORNIA - Abundant on cotton locally throughout San Joaquin Valley. Larvae range from 2-3 up to 50 per 100 plants in fields checked in Shafter and Rosedale areas. Larvae still very small in many of these fields. Control generally unsatisfactory. Many insecticide combinations used by growers. Although some appear to give good larval kill, they are not providing sufficient mortality to be considered effective. (Leigh, Sept. 7). LOUISANA - Moths continue laying eggs on green cotton but control not a problem. Recommended controls giving good results. Bollworm pressure less than previously reported but cotton still fruiting well should be protected. (Tynes, Sept. 7). ARIZONA - H. zea populations increasing in nearly all cotton-growing areas. Light to moderate damage found in many fields. Control applications increased. (Ariz. Coop. Sur.).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Common in most fields of cotton in San Joaquin Valley, but causing no economic damage. (Leigh, Sept. 7). ARIZONA - Scattered populations caused light to moderate damage to cotton in areas of Pinal and Maricopa Counties. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Common in most fields of cotton throughout San Joaquin Valley; abundant in many instances. Control desirable where severe defoliation evident. (Leigh, Sept. 7).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Infestations light but scattered in areas of Graham, Pima, Pinal and Maricopa Counties. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Infestations continue to spread in Yuma County cotton, requiring increased controls; 2 small infestations found in Deer Valley and in Moon Valley, Maricopa County. Light infestations reported in Pinal County cotton. (Ariz. Coop. Sur.).

A LEAF ROOLER MOTH (Platynota stultana) - CALIFORNIA - Larvae common in most cotton checked in Kern County area. Most infestations appear not to warrant control, although some boll damage evident. (Leigh, Sept. 7).

PINK BOLLWORM (Pectinophora gossypiella) - OKLAHOMA - Lint cleaner inspections negative in Custer County; 2 of 3 lint cleaner inspections postive in Beckham County. (Okla. Coop. Sur.). ARIZONA - Numerous larvae found in cotton bolls and blooms in several fields in Solomon area, Graham County. Larvae still found in some fields north of Mesa, Maricopa County. (Ariz. Coop. Sur.).

STINK BUGS - ARIZONA - Euschistus spp. and Chlorochroa sayi (Say stink bug) increasing in cotton and becoming of considerable concern to growers in Yuma, Maricopa and Pinal Counties. Controls necessary in many fields. (Ariz. Coop. Sur.). CALIFORNIA - Euschistus conspersus abundant in some cotton in Tulare Lake area. (Leigh, Sept.7).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Common in many cotton fields in San Joaquin Valley; growers should apply controls where small top bolls threatened. (Leigh, Sept. 7).

A BLACK COTTON FLEAHOPPER (Spanogonicus albofasciatus) - NEW MEXICO - Adults ranged 3-8 per sweep in Dona Ana County cotton. (Garcia, Gomez).

APHIDS - ARKANSAS - Fields should be watched until all leaves show maturity. Honeydew on open bolls can cause difficulty in harvesting and also lower grade. (Barnes, Roberts, Sept. 3). CALIFORNIA - Aphis gossypii (cotton aphid) evident in most cotton in San Joaquin Valley, but no instance observed where control necessary. These infestations should be watched for increases. (Leigh, Sept.7).

A FIELD CRICKET (Gryllus sp.) - CALIFORNIA - Severely damaging bolls, flowers and leaves of cotton at Calipatria, Imperial County. (Cal. Coop. Rpt.).

SPIDER MITES - ALABAMA - Increasing on cotton in Tennessee Valley area; reported defoliating much older cotton in Morgan County. (Rutledge). CALIFORNIA - Abundant in much cotton in San Joaquin Valley, but control not profitable at this time of year. (Leigh, Sept. 7).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

LARCH SAWFLY (Pristiphora erichsonii) - PENNSYLVANIA - Larch plantings over State exhibiting more widespread and heavier defoliation than ever recorded; virtually every larch in 9 central counties defoliated. Previously unaffected areas now reported from Elk, York, Fulton and Bedford Counties. P. erichsonii believed to occur statewide and will eventually occur in most, if not all, larch plantings in State. Natural controls apparently not too effective in keeping population levels low. Delayed hatching period also results in difficulty in obtaining satisfactory control. Chemical control program not advisable in most instances, as surviving numbers build up again within 2 years. Records maintained on areas having 12 or more consecutive years of heavy defoliation (70-100 percent) indicate serious tapering off in growth during past 5 years, with mortality appearing. Probably most plantings will develop to pole-stage before serious conditions noted. Future planting of extensive areas of larch should be viewed with caution. (Pa. For. Pest Rpt., Aug. 12).

AN APHID (Eulachnus agilus) - PENNSYLVANIA - Many Scotch pines in western part of State showed damage by mid-August. Species feeds on needles which turn yellow and drop in August. Thus, only needles present are current year's growth. Condition existed in area for past 3 years. One grower cut and burned 21,000 trees last winter because of lack of needles at harvest. Loss approximately 31,500 dollars. Det. by J. O. Pepper. (Udine).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - ALABAMA - Adults and larvae continue attacks on numerous, isolated pines on lawns and in small groups in forested areas. Many trees under attack during year now browning and dying. Advanced stages of this condition bring influx of beetles including Ips avulsus, I. calligraphus, I. grandicollis and Platypus spp. Numerous larvae of Monochamus titillator (southern pine sawyer) also noted. (McQueen).

EUROPEAN ELM SCALE (Gossyparia spuria) - COLORADO - Elm trees in Pueblo County and down Arkansas Valley seriously injured and many killed by combination of this species, Galerucella xanthomelaena (elm leaf beetle), and Scolytus multistriatus (smaller European elm bark beetle). Defoliation extremely severe on American and European elms, following heavy attack by bark beetles. (Thatcher).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEVADA - Spreading rapidly into uninfested areas of Tonopah, Nye County. (Zoller). NEW MEXICO - Light to very heavy and damaging Chinese elms in northern Albuquerque, Bernalillo County. Apparently killing young trees where infestations severe during past 2 years. Controls difficult owing to large number of seedlings in area. Light to moderate on American elms and hybrids. (Heninger). OKLAHOMA - Continues moderate to heavy in many areas; elms checked in Beaver County 75-80 percent defoliated. (Okla. Coop. Sur.).

LARGER ELM LEAF BEETLE (Monocesta coryli) - VIRGINIA - Large numbers of larvae feeding and stripping leaves of elms in Norfolk. (Greenwood, Aug. 31).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - IOWA - Caused drop of many elm twigs at Lost Nation, Clinton County, August 29; large summer generation in area; controls urged. (Iowa Ins. Inf.).

A NOTODONTID MOTH (Nerice bidentata) - NORTH DAKOTA - Trace numbers noted in American elm in Richland County. (Stein).

MOURNING-CLOAK BUTTERFLY (Nymphalis antiopa) - COLORADO - Larvae causing considerable defoliation of young elms in Larimer County. (Hantsbarger).

LEAFHOPPERS - WYOMING - Large numbers of adults and nymphs damaging Chinese elms at Thermopolis, Hot Springs County. (Marks).

ELM SAWFLY (Cimbex americana) - NORTH DAKOTA - Caused very little defoliation to willows in most areas of Richmond, Sargent and Ransom Counties; caused heavy damage to willows near Wyndmere. (Stein).

HACKBERRY-NIPPLE-GALL MAKER (Pachypsylla celtidismamma) - WYOMING - Galls numerous on hackberry at Thermopolis, Hot Springs County. (Marks).

A BRUSH-FOOTED BUTTERFLY (Asterocampa clyton) - NORTH DAKOTA - Caused moderate damage to hackberry in DeLamere area. (Stein).

A SAWFLY (Caliroa lineata) - OHIO - Heavy on numerous pin oaks in area 10 miles long near Vienna, Trumbull County. Damage to lower leaf surface evident. Tops of trees appear more seriously damaged although many trees completely ash-gray due to damage which probably occurred few weeks earlier. (Rose). Damaged some pin oaks in yards in Kent, Portage County. (Gilbertson). PENNSYLVANIA - Larvae defoliated scarlet and pin oaks in same area of Huntingdon County as in 1964. (Eckess).

AN ARGID SAWFLY - RHODE ISLAND - Larval aggregations common on scrub oak in woodland areas of Charlestown, Washington County; causing localized noneconomic defoliation. (Soresen, Mathewson).

OAK LACE BUG (Corythucha arcuata) - OHIO - Infested numerous white oaks in small forested area near Norton, Delaware County; overall damage light but some foliage turned light yellow-green due to numerous nymphs and adults feeding. Some leaves with up to 50 specimens, mostly nymphs, feeding. Det. by J. T. Walker. (Rose).

A BUPRESTID BEETLE (Agrilus arcuatus) - MARYLAND - Larvae causing conspicuous flagging of branches of white oak at Cockeysville, Baltimore County. (U. Md., Ent. Dept.).

LOCUST BORER (Megacyllene robiniae) - OHIO - Adults emerged and now active on goldenrod. Emergence in numbers began in experimental black locust test plots in Delaware County August 27. (Woollerman).

APHIDS - CALIFORNIA - Myzocallis robiniae and Aphis fabae (bean aphid) medium on locust trees in Martinez, Contra Costa County. (Cal. Coop. Rpt.). UTAH - Populations of aphids on beech trees declined greatly at Logan, Cache County, during August. (Knowlton). ALABAMA - Extremely high populations of unspecified species developed on crapemyrtle throughout State; sooty mold on honeydew caused serious discoloration to many plants. (McQueen).

CATALPA SPHINX (Ceratomia catalpae) - OKLAHOMA - Heavy and defoliating ornamental catalpa in Mayes County. (Okla. Coop. Sur.). VIRGINIA - Larvae feeding on foliage of catalpa in Henry County. (Amos, Sept. 4).

FALL WEBWORM (Hyphantria cunea) - ALABAMA - Larvae numerous in pecans, sweetgum and other hardwoods in Barbour, Russell and Lee Counties. (McQueen). OHIO - Webbing plentiful in some areas of Knox County on variety of deciduous trees; most frequent on wild cherry. Up to 4 webs per tree observed. Larvae range 0.75 to 1 inch long. Distribution spotty but most commonly seen in eastern third of county. (Rose). OKLAHOMA - Moderate on shade trees in Washington County; present over most of area. (Okla. Coop. Sur.). UTAH - Nests large; defoliated areas of black walnuts in Holladay area, Salt Lake County. (Knowlton).

FALL CANKERWORM (Alsophila pometaria) - PENNSYLVANIA - Defoliation in 1965 will exceed 500,000 acres in north central and northwestern regions. Infestations reported more serious on forest company lands in Elk and southern McKean Counties than in 1964. Infestations also heavier in Tioga, southwestern Potter, Clinton, Cameron and eastern Centre Counties. Decline in defoliation noted in northwestern Potter and northeastern McKean Counties. (Pa. For. Pest Rpt., Aug. 12).

GYPSY MOTH (Porthetria dispar) - MICHIGAN - No males collected during removal of last traps. This is fourth consecutive year trapping negative; species now considered eradicated from State. (Turner).

AN EPIPASCHIID MOTH (Tetralopha militella) - FLORIDA - Larvae, pupae and reared adults taken from leaves of sycamore at Jacksonville, Duval County. (Varnell).

POPLAR TENT MAKER (Ichthyura inclusa) - VIRGINIA - Feeding on poplar in Montgomery County. (Amos, Sept. 4).

A PLANT BUG (Neoborus pacificus) - CALIFORNIA - Heavy on ash trees in Rancho Santa Fe, San Diego County. (Cal. Coop. Rpt.).

BAGWORM (Thyridopteryx ephemeraeformis) - VIRGINIA - Extremely serious this year on Eastern Shore. Barring severe winter, pest expected to be abundant in 1966. (Hofmaster, Aug. 31). IOWA - Collected in Rock Rapids, Lyon County; northernmost collection in State. About two-thirds grown and nearly defoliated juniper. (Iowa Ins. Inf., Sept. 7). NORTH DAKOTA - Infested arborbvitae from out-of-State at Fargo. (Frye).

A LEAF ROLLER MOTH (Platynota stultana) - CALIFORNIA - Causing heavy damage to Lampranthus sp. nursery stock in Lodi, San Joaquin County. (Cal. Coop. Rpt.). FLORIDA - Larvae taken from leaves of azalea in nursery at Alva, Lee County. (Bell, Sept. 2).

A LEAF ROLLER MOTH (Croesia semipurpurana) - PENNSYLVANIA - Defoliated 500,000 acres of species in red oak group in 1964. Area defoliated in 1965 equally as large with several extensions. Defoliation in Clinton County less than in 1964, but defoliation of 70-100 percent common elsewhere in area. Extensive oak mortality appeared in late July in areas continuously defoliated. Lycoming County most seriously affected area. (Pa. For. Pest Rpt., Aug. 12).

TOBACCO BUDWORM (Heliothis virescens) - CALIFORNIA - Medium and damaging geranium flowers and leaves in Encinitas, San Diego County. (Cal. Coop. Rpt.).

MAGNOLIA SCALE (Neolecanium cornuparvum) - PENNSYLVANIA - Eggs abundant and hatching on magnolia in Centre County August 19. (Udine). DELAWARE - Crawlers starting on magnolia in New Castle County. (MacCreary). MARYLAND - Heavy on magnolia in College Park, Prince Georges County. (U. Md., Ent. Dept.).

COCCIDS - PENNSYLVANIA - Lepidosaphes ulmi (oystershell scale) heavy on pachysandra and eggs of Toumeyella liriodendri (tuliptree scale) abundant and hatched on magnolia in Centre County. (Udine, Aug. 19). RHODE ISLAND - Infestation, probably Pseudococcus comstocki (Comstock mealybug), heavy on catalpa trees and in yard in Riverside, Providence County. (Mathewson). Infestation, probably Pulvinaria ericicola, heavy on azalea in Kingston, Washington County. (Mathewson, Pero). FLORIDA - Pinnaspis strachani severely damaging stem of Cestrum diurnum at Miami, Dade County. (Herrmann). Adults of Pulvinaria psidii light and moderately damaging leaves of ixora in nursery at Lake Helen, Volusia County. (Roberts, Sept. 3). WISCONSIN - Crawlers, probably Lecanium corni (European fruit lecanium), abundant on leaves and twigs of elms in Madison area; trees treated for Dutch elm disease control. (Wis. Ins. Sur.). OKLAHOMA - Unaspis euonymi (euonymus scale) moderate to heavy on euonymus in Payne, Washington and Comanche Counties. (Okla. Coop. Sur.). NEW MEXICO - U. euonymi serious problem throughout Albuquerque area, Bernalillo County. Controls very difficult. Infestation, probably Phenacaspis pinifoliae (pine needle scale), heavy on pinyon pine, blue spruce and ponderosa pine in large shopping center in Albuquerque, Bernalillo County; apparently major factor in high mortality of ponderosa pine. (Heninger).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - VIRGINIA - Damaging buds and flowers of aster at Mineral, Louisa County. (Isakson, Sept. 4).

BLACK VINE WEEVIL (Brachyrhinus sulcatus) - OHIO - Infested nursery taxus in Cuyahoga and Lorain Counties. Adults particularly common this year. (Walker).

FULLER ROSE BEETLE (Pantomorus godmani) - VIRGINIA - Attacking shrubbery in Newport News area. (Isakson, Griffin).

SNOWY TREE CRICKETS (Oecanthus spp.) - UTAH - Moderately numerous on flowering Chrysothamnus nauseosus in Wellsville Canyon, Cache County, and Box Elder Canyon and Mantua, Box Elder County. (Knowlton).

SPIDER MITES - IOWA - Attacking evergreens in dry areas. Heavy on blue spruce in Madison. Controls recommended. (Iowa Ins. Inf., Sept. 7). OKLAHOMA - Heavy on stems of Blue Haven juniper in Stillwater area, Payne County. (Okla. Coop. Sur.).

A FALSE SPIDER MITE (Pentamerismus taxi) - ILLINOIS - Caused extensive damage to yews in Champaign County. This is a new State record. (Ill. Ins. Rpt.).

PRIVET MITE (Brevipalpus obovatus) - CALIFORNIA - Medium on Solanum aviculare in Camerillo, Ventura County. (Cal. Coop. Rpt.).

ERIOPHYID MITES - CALIFORNIA - Aculus massalongoi medium to heavy on lilac bushes in Redwood City, San Mateo County. Previously known from Chico, Butte County. (Cal. Coop. Rpt.). FLORIDA - Eriophyes buceras adults noted on black-olive in nursery at Miami, Dade County. (Herrman, Sept. 1).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - UTAH - Troublesome about towns and on farms in Willard-Perry area, Box Elder County, and at Locomotive Springs. Very troublesome in lake and stream fishing areas throughout Uintah Mountains all summer. Recent cold nights materially reduced annoyance in these areas of Uintah, Duchesne and Daggett Counties. (Knowlton). ARIZONA - Heavy populations of several species nuisance to fieldmen throughout Graham County. (Ariz. Coop. Sur.). NEW MEXICO - Very abundant in cotton and alfalfa fields in Roswell area, Chaves County. (Kloepfer). TEXAS - Populations on definite increase at end of August in Jefferson County; Aedes sollicitans occurred in large numbers 2 times during period locally. A. taeniorhynchus present throughout month from Pleasure Island into south Beaumont. Species occurring throughout county included Psorophora confinnis, P. ciliata (in small numbers throughout county except in Pleasure Island area), Anopheles crucians, Uranotaenia lowii and several specimens of Uranotaenia sapphirina. Anopheles quadrimaculatus (common malaria mosquito) occurred mostly in northern half of county; however, some specimens taken in Port Arthur area. (Jefferson Co. Mosq. Contr. Dist.; Aug. Rpt., Thompson). OKLAHOMA - Adults of several species annoying in Bryan and Beaver Counties. (Okla. Coop. Sur.). IOWA - Serious annoyance expected in September; usual month of greatest abundance of Culex pipiens pipiens (northern house mosquito) and C. tarsalis. Heavy rains in eastern area expected to bring hatch of Aedes vexans; controls urged. (Iowa Ins. Inf., Sept. 7). WISCONSIN - Populations of Culex pipiens pipiens (northern house mosquito) increased in Dane County; biting minimal. (Wis. Ins. Sur.). ALABAMA - Large numbers pupating in central area following rains; considerable irritations around homes. (McCrea).

HOUSE FLY (Musca domestica) - IOWA - Greater annoyance expected in September; controls urged. (Iowa Ins. Inf., Sept. 7). OKLAHOMA - Moderate to heavy in barns and homes in Payne, Hughes, Beaver and Harper Counties. (Okla. Coop. Sur.). UTAH - Entering homes at Logan, Cache County. Numerous about stables at Willard, Box Elder County. (Knowlton).

FACE FLY (Musca autumnalis) - UTAH - Taken in Logan Green Canyon, Cache County. (Hanson, Knowlton). Cattle and horses much annoyed in College Ward and Millville area, Cache County. (Knowlton).

STABLE FLY (Stomoxys calcitrans) - MICHIGAN - Adults annoying on some Ingham and Shiawassee County farms. (Dowdy).

HORN FLY (Haematobia irritans) - OKLAHOMA - Ranged 500-1,000 per head in Beaver and Harper Counties; heavy on cattle in Payne County and moderate in Cleveland and Hughes Counties. (Okla. Coop. Sur.). UTAH - Decreasing noticeably on Cache County herds. (Knowlton).

HORSE BOTS (Gasterophilus spp.) - OKLAHOMA - Adults active around horses in Beaver and Harper Counties. (Okla. Coop. Sur.).

CATTLE GRUBS (Hypoderma spp.) - IOWA - Controls urged. (Iowa Ins. Inf., Sept. 7).

BROWN DOG TICK (Rhipicephalus sanguineus) - ARIZONA - Controls necessary on many residential properties in Yuma County. (Ariz. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

EARWIGS - UTAH - Continue very numerous about many homes in Salt Lake and Davis Counties. Extremely numerous about homes at Mantua, Box Elder County. (Knowlton). WYOMING - Forficula auricularia (European earwig) adults entering homes and causing annoyance at Rawlins, Carbon County. (Stevens).

CRICKETS - TEXAS - Heavy and widespread; causing annoyance to homeowners in Caldwell, Comal, Hays and Guadalupe Counties. (Texas Coop. Rpt., Massey). MARYLAND - Nuisance in numerous homes over State. (U. Md., Ent. Dept.). WISCONSIN - Gryllus spp. unusually abundant in most areas of State; entering homes in many locations. (Wis. Ins. Sur.).

A TINEID MOTH (Acedes fuscipunctella) - CALIFORNIA - Adults heavy and invading home; apparently coming from dried chicken manure in Vista, San Diego County. Adults medium in home in Upland, San Bernardino County. (Cal. Coop. Rpt.).

BROWN HOUSE MOTH (Hofmannophila pseudospretella) - CALIFORNIA - Larvae medium in walls and siding of home in Menlo Park, San Mateo County. (Cal. Coop. Rpt.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Entering homes in Cleveland County. (Okla. Coop. Sur.).

MOTH FLIES - MARYLAND - Nuisance in several homes in Anne Arundel and Prince Georges Counties. (U. Md., Ent. Dept.).

VINEGAR FLIES (Drosophila spp.) - UTAH - Reproducing in home at Ogden, Weber County; entering homes in Logan, Cache County. (Knowlton).

A COREID BUG (Arhyssus scutatus) - CALIFORNIA - Adults heavy and invading home in Sacramento, Sacramento County. (Cal. Coop. Rpt.).

ANTS (Formica spp.) - ARIZONA - Troublesome to many homeowners in Yuma, Yuma County; treatments necessary to reduce populations. (Ariz. Coop. Sur.).

A SPRINGTAIL (Entomobrya kanaba) - VIRGINIA - Large numbers invaded homes; persisted well into summer; noted in 1964 and 1965 on Eastern Shore. Det. by D. L. Wray. (Hofmaster, Aug. 31).

SUBTERRANEAN TERMITES - WYOMING - Reticulitermes sp. infested Natrona County Hospital at Casper. (Robb). UTAH - R. hesperus (western subterranean termite) infested home at Sandy, Salt Lake County. (Knowlton).

CARPENTER BEE (Xylocopa virginica) - MARYLAND - Active about carport in Princess Anne, Worcester County. (U. Md. Ent. Dept.).

BLUE HORNTAIL (Sirex cyaneus) - CALIFORNIA - Adults boring holes through sheetrock in new building in Vallejo, Solano County. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

LADY BEETLES - MICHIGAN - Adults ranged 0-9 (averaged 4) and larvae ranged 0-3 (averaged 0.6) per 10 sweeps in 9 fields of alfalfa in central section September 7. (Dowdy). COLORADO - Found lightly infested by unidentified parasitic Hymenoptera. Hippodamia convergens (convergent lady beetle) pupae light to moderately heavy on field corn in Lucerne area, Weld County. (Simpson). WYOMING - Adults and nymphs of several species numerous in alfalfa in Big Horn, Washakie and Hot Springs Counties. (Marks). CALIFORNIA - Hippodamia spp. very prevalent in alfalfa in many Fresno County locations. (Cal. Coop. Rpt.).

GREEN LACEWINGS (Chrysopa spp.) - OKLAHOMA - Large numbers of eggs present on cotton in Jackson County. (Okla. Coop. Sur.).

DAMSEL BUGS - MICHIGAN - Adults and nymphs ranged 0-20 (averaged 6.5) per 10 sweeps in 9 alfalfa fields in central section on September 7. (Dowdy). WYOMING - Nabis spp. adults and nymphs numerous in alfalfa fields in Big Horn, Washakie and Hot Springs Counties. (Marks).

AN ANTHOCORID BUG (Orius insidiosus) - OKLAHOMA - Adults numerous in cotton in Jackson County. (Okla. Coop. Sur.).

MISCELLANEOUS INSECTS

AN EMBIID (Oligembia vandykei) - NORTH CAROLINA - Collected January 2, 1965, from oak and pine litter near Calypso, Duplin County. Three females recovered by Berlese funnel. Det. by H. H. Ross. (Cornell).

A MIDGE (Chironomus fulvipilus) - FLORIDA - Larvae taken in drinking water at Eau Gallie, Brevard County. (Crawford, Aug. 26).

JAPANESE BEETLE (Popillia japonica) - MICHIGAN - Few adults continue to be taken as traps inspected for last time. Newly infested acreage for 1965 smallest for single year since 1958. Spot treatment of relatively small acreage planned for several areas. (Turner).

ANTS - MICHIGAN - Various species reported swarming in Ingham, Jackson and Marquette Counties. Swarms especially heavy near Swartz Creek, Shiawassee County, September 7. (Dowdy).

A FALSE CHINCH BUG (Nysius sp.) - NEVADA - Populations continue heavy in Gardnerville-Minden areas, Douglas County. (Bechtel, Weaver).

GREATER WAX MOTH (Galleria mellonella) - UTAH - Attacked several honey bee supers at Logan, Cache County; one super destroyed. (Nye, Knowlton).

YELLOW WOOLLYBEAR (Diacrisia virginica) - UTAH - Occasionally found about communities in northern section. (Knowlton).

CORRECTIONS

CEIR 15(36):1036 - A LACE BUG (Corythuca pruni) should read (Corythucha pruni).

CEIR 15(36):1047 - ARMORED SCALES - CALIFORNIA - Diaspis cocos should read Diaspis cocois.

CEIR 15(37):1060 - CORN EARWORM (Heliothis zea) - WISCONSIN - Fifth line should read: "...about 2250 thermal units. ..."

ADDITIONAL NOTES

NEW HAMPSHIRE - A WOLF SPIDER (Lycosa carolinensis) caused concern to workers in factory near newly bulldozed area at Concord August 31. Infestation, probably HEMLOCK SCALE (Aspidiotus ithacae), noted on hemlock at Wolfboro September 2. FALL ARMYWORM (Spodoptera frugiperda) damaging field corn in late whorl and early tassel stages; 65 percent of stalks infested with 1-6 larvae in all instars at Milford. EYED CLICK BEETLE (Alaus oculatus) adults collected from dead elm at Concord. (Sutherland).

NORTH CAROLINA - CORN EARWORM (Heliothis zea) averaged 3 per 10 feet of row in Duplin County soybean field; pod damage quite noticeable. No significant infestations found in 4 other fields examined in Pender, Bladen and Robeson Counties. MEXICAN BEAN BEETLE (Epilachna varivestis) heavily skeletonized and browned number of soybean fields in vicinity of Lumber Bridge, Robeson County. (Mount). PECAN WEEVIL (Curculio caryae) light on pecans in Pender County. (Robertson). Undetermined ERIOPHYID MITES infested pecan leaves in Sampson County. (Futrell, Robertson). Undetermined CATERPILLARS damaged sweetpotatoes in 35-acre field near Dunnin, Harnett County; larvae moved from vines to recently dug roots. Grower plans treatment before additional digging of crop. (Scott, Godwin). Larvae of CROSS-STRIPED CABBAGEWORM (Evergestis rimosalis) and IMPORTED CABBAGEWORM (Pieris rapae) infested collards in garden in Greene County. (Grant, Mount). AZALEA BARK SCALE (Eriococcus azaleae) infested azaleas in Robeson County. (Scott). AZALEA LACE BUG (Stephanitis pyrioides) caused heavy damage to azaleas in Union County. (Mount). ORANGE-STRIPED OAKWORM (Anisota senatoria) larvae caused considerable feeding on 2 oaks in Halifax County. (Taylor, Mount). Larvae, probably LILAC BORER (Podosesia syringae syringae), injured lilac in Iredell County. (Franklin, Mount). GIANT HORNET (Vespa crabro germana) caused great concern around home in Wake County; one resident stung. (Mount).

SOUTH DAKOTA - Diabrotica virgifera (western corn rootworm) and D. longicornis (northern corn rootworm) population levels unchanged in field of late corn in Moody County compared with previous week; variation in numbers of individuals appears greater; adults ranged 0-41 per stalk. D. virgifera comprised 20 percent of adult population. Field of corn west of Erwin in northern Kingsbury County had 3-4 per stalk; approximately 50 percent being D. longicornis. (Jones). GRASSHOPPER infestation about same in intensity and extent as in 1964; however, some increase observed in eastern part of State, especially in northeast. (Jones). Threatening to severe grasshopper infestations exist in portions of Roberts, Grant, Day, Brown, Spink, Clark, Beadle, Brule, Jerauld, Sanborn, Aurora, Davison, Hanson, McCook, Lake, Moody, Minnehaha, Gregory, Tripp, Todd, Corson, Dewey and Ziebach Counties. Light to threatening infestations cover most of remaining parts of these counties east of Missouri River and approximately half of land area west of river. Rangeland infestation decreased in western counties where rainfall sufficient to keep grasshopper numbers low and stimulate growth of grass. (Burge). Spraying for control of grasshoppers continued in some areas, mostly on alfalfa field borders of corn. Damage to corn at field margins noted in Charles Mix and Yankton Counties. Alfalfa also damaged in Hamlin County. In latter area, Melanoplus femurrubrum (red-legged grasshopper) averaged over 12 per square yard within field and over 20 per square yard at edges of field. (Burge, Jones). Grasshoppers numerous, with damage reported to corn and alfalfa in Perkins, Haakon and Jackson Counties. (Jones).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, LV = incandescent, O = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Choristoneura fumiferana (spruce budworm)	Epiblema scrobiculana (oak-twig girdler)	Faronta diffusa (white-lined sphinx)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiralis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Papaipema nebris (stalk borer)	Pedaliodes confusalis (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARKANSAS																								
Morrilton 9/2-8				6					2	24					0				10					
Fayetteville 9/2-8				0					3	75					1				0					
FLORIDA																								
Gainesville 9/7			BL					1		1						2			1		15			
ILLINOIS (County)																								
Champaign 9/3-9	55-80	0.04		4						90				22	43	10			44		17			
INDIANA (Counties)																								
Posey 8/28-9/3			BL	10		13				112				1114	7		8	10	26					
Vanderburgh 8/28,29,31-9/3			BL	7		1				50				15	11		0	1	22					
Harrison 8/28-9/3			BL	39		6				123				11	7		14	11	30					
Dubois 8/28,29,31-9/1			BL	21		7				70				21	3		6	8	10					
Sullivan 8/28-9/3			BL	11		15				262				47	4		9	6	23					
Greene 8/28-9/3			BL	16		32				79				16	11		23	22	26					
Jackson 8/28-9/3			BL	23		2				173				49	41		18	19	27					
Switzerland 8/28-9/3			BL	264		0				90				5	101		8	2	147					
Franklin 8/28-9/3			BL	144		0				36				1	69		20	2	145					
Parke 8/28-9/3			BL	44		6				32				3	12		41	16	35					
Shelby 8/28-9/3			BL	18		1				21				4	40		9	2	22					
Hamilton 8/28-9/3			BL	14		0				65				1	26		26	26	76					
Tippecanoe 8/28-9/3			BL	10		0				149				2	34		10	3	48					
Wells 8/28-9/3			BL	3		0				20				3	6		4	5	38					
Jasper 8/28-9/3			BL	8		0				51				10	14		3	6	18					
Allen 8/28-9/3			BL	0		0				10				2	13		0	2	10					
Lake 8/28-9/3			BL	9		0				36				6	9		0	0	10					
St. Joseph 8/28-9/3			BL	20		0				13				8	13		3	1	38					
Lagrange 8/28-9/3			BL	1		1				6				27	11		0	3	15					
MARYLAND																								
Centreville 9/1-7			BL	130						209				86	2	spp.			99		19			
Snow Hill 9/1-6			BL	20						584				288	28	9 16			84		41		4	
MICHIGAN (Counties)																								
Monroe 8/31-9/6			BL	7						0					3	1			17				2	
Wayne 8/31-9/6			BL	7						0					0	0			20				0	
Berrien 8/31-9/6			BL	9						3					2	3			17				4	
Branch 8/31-9/6			BL	23						2					7	5			47				0	
Kalamazoo 8/31-9/6			BL	3						0					2	2			11				0	
Jackson 8/31-9/6			2BL	11						4					4	3			34				2	
Livingston 8/31-9/6			BL	9						0					5	1			23				0	
Ionia 8/31-9/6			BL	10						2					6	2			19				1	
Saginaw 8/31-9/6			BL	2						0					1	0			7				0	
Sanilac 8/31-9/6			BL	7						0					3	0			19				0	
Ogemaw 8/31-9/6			BL	8						0					2	0			5				0	
Newaygo 8/31-9/6			BL	7						0					3	2			16				0	
MISSISSIPPI																								
Stoneville 9/3-9	63-92	0.11	2BL	45		38		229	25	283						261	3	34	130	1154	531	3312		
Rolling Fork 9/3-9	63-93		BL	5		3		200	33	198					4	92	4	30	8	492	89	9720		
Tunica 9/3-9	58-93		BL	28				116	20	409					4	54	4	36	26	86	56	382		

LIGHT TRAP COLLECTIONS

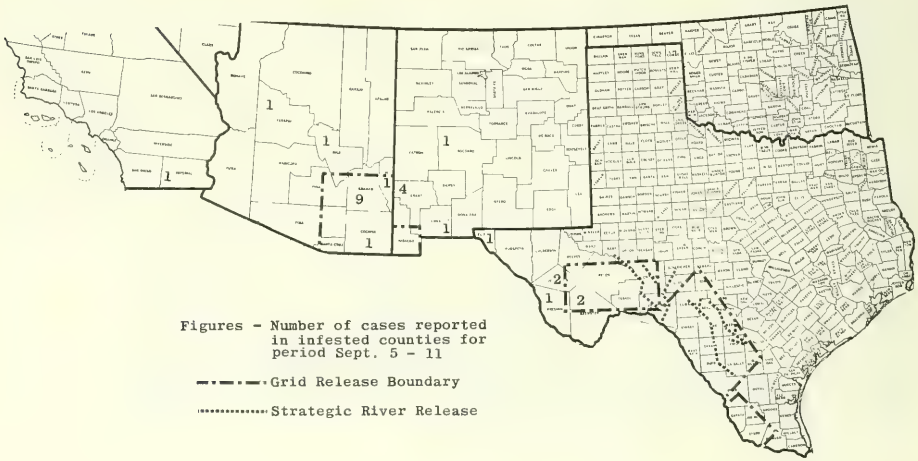
	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chrisiagrotis smithiaria (grey cutworm)	Euplexia ness (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feralia subcerasana (bramble cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Loxostege sticticalis (European corn borer)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tobacco hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
												spp.												
NEBRASKA																								
Gering Valley 8/12-18				69				65			13	143			75					139				
Gering Valley 8/19-25				55				9			7	64			41					122				
Parks 8/4-10				18				30		6	2	16			56					22				
Parks 8/11-17				16				81			6	64			12					28				
Parks 8/18-23				20				8			4	8			6					32				
Scotts Bluff Exp. Sta. 8/14-20				42				19				62			197			1		126				
Scotts Bluff Exp. Sta. 8/21-27				40		1		5		1	1	135			52					118				
OHIO (Counties)																								
Licking 9/2-9			BL	5							1					2				15				
Wayne 9/2-9			BL	2							7							4		7				
Franklin 9/3-6			BL	2				16			24				6	3				9		10		
SOUTH CAROLINA																								
Charleston 8/30-9/5	65-90	0.10	BL	0			0		4	0	125				0	0	0	0		1		2	0	
Charleston 9/6-12	62-92	0.02	BL	1			0		5	0	28				0	1	0	1		0		5	1	
Clemson 8/28-9/3			BL	17					4		42				5	102		2		34		99	15	
Clemson 9/4-10			BL	52					9		32					115				47		99	16	
SOUTH DAKOTA																								
Brookings 9/7-9			BL																	1				
TENNESSEE (Counties)																								
Cumberland 8/31-9/6				1							89				2	21	12	4		18		13		
Knox 8/31-9/6				12							44					42	3	6		36		14		
Johnson 8/31-9/6				24							178				1	39	8	2		59		27		
TEXAS																								
Waco 9/4-10			BL	27			14		70	101	398				61	38				60	2	1	519	
WISCONSIN																								
Platteville 9/1-7			BL	6							3			8	2					15				
Mazomanie 8/30-9/7			BL	1							7			12	0					2				
Madison 9/1-7	43-78		BL	31	9						5			14	7					31				
Middleton 9/1-7			BL	1							6			15	2									
De Forest 8/31-9/6			BL								1			17	6					28				
Arlington #1 8/31-9/6			BL								53			12						29				
Arlington #2 8/31-9/8			BL								28			23										
Wayne 8/31-9/6			BL								3			0						10				
Theresa 8/31-9/6			BL								4			3						10				
Nenno 8/31-9/6			BL								3			2						6				
Oakfield 8/31-9/6			BL								1			7						18				
Cedar Grove 8/31-9/6			BL								132			9						54				
			BL																					

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period September 5-11, a total of 26 cases was reported in the Southwestern Eradication Area as follows by State and county: TEXAS - Brewster 2, Jeff Davis 2, El Paso 1 and Presidio 1; NEW MEXICO - Grant 4, Luna 1 and Socorro 1; ARIZONA - Chochise, Gila, Greenlee and Yavapai 1 each and Graham 9; CALIFORNIA - Imperial 1. The Republic of Mexico reported 144 cases: Sonora 43, Chihuahua 37, Nuevo Leon 1, Territorio sur de Baja California 12, Tamaulipas 2, Durango 36, Veracruz 6, San Luis Potosi 4 and Coahuila 3. Sterile screw-worm flies released: Texas 18,026,250, New Mexico 6,080,000, Arizona 15,100,000, California 620,000 and Mexico 59,012,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	140	2783	82	4868	170.73	57.16
1964	0	105	61	4442	0.00	2.36
1965	26	660	49	3810	53.06	17.32
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	222	2112	34	1479	652.94	142.79
1965	121	3523	23	1702	526.08	206.99
Table 2A. Mexican portion of Barrier Zone only.						
1964	208	1916	21	680	990.47	281.76
1965	98	2998	12	651	816.66	460.52

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



A Survey to Determine the Abundance of Forage Crop Insects in Western Massachusetts in the Spring of 1965

F. R. Shaw, R. Callahan, F. Holbrook and M. Miller

As one phase of the investigations of forage crop insects in Massachusetts, extensive collections were made in Berkshire, Hampden and Hampshire Counties.

In 1965, the most abundant single species was alfalfa weevil (Hypera postica). A maximum of 4,100 per 100 sweeps was obtained, this being the largest number ever collected in the State. Untreated fields had from moderate to severe damage, with many exhibiting the "frosted" appearance associated with the injury of this insect. The first specimens were taken on May 5.

Pea aphid (Acyrthosiphon pisum) was remarkably low in numbers, comprising only 2.6 percent of the total. In previous years, this pest has been much more numerous, representing from 45 to 60 percent of all insects. Beneficial insects, including lady beetles, damsel bugs, lacewings and syrphids, were also less abundant. Plant bugs were somewhat less abundant in 1965 comprising 3.81 percent of the total, whereas in 1964 they represented 4.36 percent. Tarnished plant bug (Lygus lineolaris), as in previous years, was most common with meadow plant bug (Leptopterna dolabratus) and alfalfa plant bug (Adelphocoris lineolatus) ranking second and third. Leafhoppers represented 4.43 percent of the total (5.81 percent in 1964). Errastunus ocellaris was the most common species collected, representing 50 percent of the total. Clover leafhopper (Aceratagallia sanguinolenta) ranked second, with potato leafhopper (Empoasca fabae) being third. The latter species was first observed in Southwick on May 6. It was more abundant than in 1964 and some fields showed considerable yellowing. Meadow spittlebug (Philaenus spumarius) was slightly more abundant in 1965, representing 0.72 percent in comparison with 0.33 in 1964. In some fields in southern Berkshire County considerable stunting of plants was noted.

A summary of the result of the survey is presented in the following table. This report is based on collections of 46,324 insects taken from April 15 through June 15. Sampling was done by taking 100 sweeps with a 15-inch net in each field at approximately weekly intervals. The same fields were examined each week.

Abundance of Forage Crop Insects in Western Massachusetts, Spring 1965

Insect Name or Group	Percent Of Group	Percent Of Total
Aphids:		
Acyrthosiphon pisum	100	2.60
Plant bugs:		3.81
Lygus lineolaris	61.00	
Leptopterna dolabratus	15.24	
Adelphocoris lineolatus	12.02	
Trigonotylus ruficornis	5.08	
Amblytylus nasutus	4.80	
Others	2.48	
Leafhoppers:		4.43
Errastunus ocellaris	50.02	
Aceratagallia sanguinolenta	19.94	
Empoasca fabae	8.05	
Endria inimica	6.50	
Macrosteles fascifrons	4.70	
Doratura stylata	2.33	
Draeculacephala spp.	2.13	
Others	2.35	

Beetles:		84.94
Hypera postica	98.99	
Elaterids	0.49	
Sitona hispidula	0.24	
Hypera punctata	0.11	
Others	0.17	
Meadow spittlebug (*Philaenus spumarius*)		0.72
Lepidoptera:		0.37
Noctuids	33.53	
Geometrids	26.59	
Others	39.88	
Miscellaneous Insects:		
Sawflies		0.33
Grasshoppers		0.10
Membracids		0.02
Others		0.89
Beneficial Insects:		0.58
Nabis ferus	32.08	
Coccinellids (lady beetles)	26.87	
Anthocorids	22.39	
Chrysopids	14.55	
Reduviids	4.10	
Related Beneficial Arthropods:		
Spiders		0.83
Harvestmen		0.38

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 September 24, 1965 Number 39

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

CORN EARWORM continues some damage in Southwest and other areas. THREE-CORNERED ALFALFA HOPPER continues damage in Arizona alfalfa and numerous in some late soybean in Arkansas but noneconomic. (p. 1115). GRASSHOPPERS damaging in several States; careful checking of soybeans urged in Tennessee; feeding on corn in Wisconsin and New Mexico; damaging seedling winter wheat in Wyoming and feeding on alfalfa in Ohio and South Dakota. (pp. 1115, 1116, 1129). WESTERN BEAN CUTWORM heavy in corn in Hall County, Nebraska. HESSIAN FLY population lowest of several years in Illinois. (p. 1116).

PEAR PSYLLA heavy in all pear-growing areas of Oregon. (p. 1119). FALL WEBWORM extremely heavy in Arkansas on walnut and damaging blueberry plantings in Michigan. CITRUS THRIPS requires controls on Arizona citrus. (p. 1120). BOLLWORM and CABBAGE LOOPER increasing in several cotton-growing States. BEET ARMYWORM and COTTON LEAF PERFORATOR increasing in Arizona. (p. 1122). LARCH SAWFLY again infesting several thousand acres on Mt. Hood National Forest and in 6 locations on Wallowa-Whitman National Forest in Oregon. (p. 1125). Floodwater species of MOSQUITOES increased following wake of Hurricane Betsy in Louisiana. (p. 1125).

DETECTION

New State records included: AN ENCYRTID WASP (*Trechnites insidiosus*) in Oregon (p. 1127) and GIANT HORNET (*Vespa crabro germana*) in Indiana (p. 1128). New county or parish records included: WESTERN CORN ROOTWORM (*Dibrotica virgifera*) in Hancock County, Illinois, and in Custer, Jackson, Meade, Pennington and Shannon Counties, South Dakota (pp. 1116,1129), WALNUT HUSK FLY (*Rhagoletis completa*) in Butte County, California (p. 1119), and A MOSQUITO (*Psorophora horrida*) in Jefferson Parish, Louisiana (p. 1125).

CORRECTIONS and ADDITIONAL NOTES

See pages 1128 and 1129, respectively.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1132).

Some Observations on the Biological Control of the Alfalfa Weevil in Western Massachusetts. (p. 1134).

Reports in this issue are for the week ending September 17 unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-SEPTEMBER TO MID-OCTOBER 1965

The Weather Bureau's 30-day outlook for the period from mid-September to mid-October calls for temperatures to average below seasonal normals over the western three-quarters of the Nation except for near to above normal along the Pacific coast and near normal in the west gulf coast region. Above normal averages are anticipated for the Atlantic Coast States while near normal is in prospect elsewhere. Rainfall is expected to exceed normal over most areas east of the Continental Divide. Subnormal totals should be confined to West Coast States and western portions of the Great Basin with near normal amounts called for in unspecified areas.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

WEATHER OF THE WEEK ENDING SEPTEMBER 20

HIGHLIGHTS: (1) Record early winter storm, northern Rockies. (2) Cold northwestern half, mild southeast. (3) Moderate to heavy rains, many areas.

TEMPERATURE: Cold Arctic air began moving into Montana Wednesday the 15th and covered nearly all the Far West and northern Great Plains during the next two days. Temperatures dropped to record low levels for so early in the season in the central and northern Rockies and much of the Pacific Northwest. Lowest temperatures were near zero at many points in the snow-covered northern Rockies. Frost and freezing extended into much of the State of Washington, over the northern half of Colorado, Utah, and Nevada. The week was 21° colder than normal at Casper, Wyoming, and more than 12° in all the northern Rocky Mountain area and much of the northern Great Plains. Temperatures in this area have averaged 5° to 10° below normal for the past four weeks. In contrast, hot, humid conditions persisted in the South and East. Highs in the 90's were common in the South, and temperatures were above 100° in portions of Oklahoma and northern Texas. Temperatures reached 90° in St. Louis, Missouri, on Friday; Columbus, Ohio, on Saturday; and Philadelphia, Pennsylvania, on Sunday. Weekly averages were up to 10° above normal in central Texas and eastern Oklahoma.

PRECIPITATION: Precipitation occurred nearly every day in the northern half of the Nation, and at least on one day elsewhere except in some southern areas west of the Rockies. Weekly totals were mostly moderate to heavy. Over 2 inches fell in much of the Corn Belt, Oklahoma, and portions of northwestern Texas, and more than 4 inches across northern Missouri into west central Illinois. The northern Great Plains and a wide belt in the Rockies extending from northern Arizona to south central Montana received more than an inch. Beneficial amounts fell in much of the Northeast. Totals generally ranged from 0.5 to 2 inches in New England, over 0.5 inch in central and northeast New York and New Jersey, but were less than 0.3 inch in eastern Pennsylvania. Frontal thunderstorm activity accounted for most of the rain in the midcontinent area. Most of the Rocky Mountain precipitation fell during a three day snowstorm, the most severe ever recorded so early in the season. Falls ranged up to 6 to 8 inches in western South Dakota, 18 inches in western Nebraska, 2 feet in Wyoming and several inches as far south as northern Arizona. Snowfall records for September over a large area were broken and some stations reported their first snowstorm ever in September.

CEREAL AND FORAGE INSECTS

CORN EARWORM (Heliothis zea) - NEVADA - Larvae one-third to one-half grown infesting 100 percent of corn at Orovada, Humboldt County. (Lauderdale). ARIZONA - Light to moderate in sorghum and corn fields in Graham, Yuma and Pinal Counties. (Ariz. Coop. Sur.). NEW MEXICO - Damaging ears and tassels of sweet corn in most areas of State. (N.M. Coop. Rpt.). OKLAHOMA - Heavy in sweet corn in Kay County. (Okla. Coop. Sur.). MISSOURI - Larvae building up slowly on soybeans in southeastern district. Some fields treated but most remain noneconomic. (Jones). ILLINOIS - Damage survey of field corn in southern quarter of State showed 0.057 percent loss. Cash value not yet computed. (Ill. Ins. Rpt. Sept. 10). MICHIGAN - Adults extremely light and scattered; larvae found in 5 corn fields in Oakland and Wayne Counties September 14. (Newman, Thompson). DELAWARE - Adults abundant in blacklight trap collections in Sussex County; averaged about 100 per night. (Burbutis). MARYLAND - Caused light pod damage to soybeans in Salisbury, Wicomico County. (U.Md., Ent. Dept.). VIRGINIA - Light in soybean fields in King George, Richmond, Northumberland, Essex, King and Queen and Henrico Counties; ranged 4-16 per 100 feet of row. Medium to heavy in Westmoreland, Middlesex and Hanover Counties; ranged 2-10 per 10 feet of row. (Isakson, Sept. 14-16). NORTH CAROLINA - Larvae average 1 per foot of row in late-planted soybeans in bloom stage in Scotland County. Most larvae less than 0.5-inch long, some newly hatched. Very little or no infestation in 9 other fields in county. (Mount). ALABAMA - Light in 3 of 4 soybean fields examined in major agricultural area of Mobile County. (Seibels).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - VIRGINIA - Heavy in 15-20 acres of soybeans in New Kent County. Damage occurred at main stem at ground; wounds invaded by fungi. Det. by D. M. Weisman. (Allison, Aug. 25). ARIZONA - Moderate and damaging peanut fields in Yuma County; some controls necessary. (Ariz. Coop. Sur.).

GREEN CLOVERWORM (Plathypena scabra) - OKLAHOMA - Heavy in alfalfa in Payne and Harper Counties. (Okla. Coop. Sur.). MICHIGAN - Larvae ranged 0-2 per 10 sweeps in 20 alfalfa fields in Gratiot, Calhoun, Branch, St. Joseph, Cass and Van Buren Counties September 10 and 14. (Bath, Newman). VIRGINIA - Light in all counties checked except in one field in Middlesex County. (Isakson). ALABAMA - Light in treated soybean fields in Baldwin County. (Turner et al.).

A LEAF ROLLER MOTH (Platynota stultana) - ARIZONA - Light and damaging peanuts on Yuma Mesa, Yuma County. (Ariz. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Heavy and continuing damage to alfalfa in Graham, Yuma, Pinal, Pima and Maricopa Counties. (Ariz. Coop. Sur.). NEW MEXICO - Ranged 6-10 adults per 25 sweeps in alfalfa at Tularosa, Otero County. (Mathews). ARKANSAS - Numerous in some fields of late soybeans; noneconomic. (Ark. Ins. Sur.).

GRASSHOPPERS - TENNESSEE - Grasshoppers becoming abundant in soybean fields; careful checking urged. (Johnson). OHIO - Melanoplus femurrubrum (red-legged grasshopper) collected from alfalfa in Vinton County; averaged 1 per sweep. Insignificant in other southeastern alfalfa fields. (Rose). Large number of undetermined dead grasshoppers observed clinging to timothy and alfalfa stems in Lake County. (Forsythe). MICHIGAN - Melanoplus spp. adults ranged 0-5 and nymphs 0-4 per 10 sweeps in 20 alfalfa fields in Gratiot, Calhoun, Branch, St. Joseph, Cass and Van Buren Counties September 10 and 14. (Bath, Newman). WISCONSIN - M. femurrubrum populations continue numerous in many alfalfa fields in Dunn, St. Croix and Pierce Counties; feeding on corn noticeable in many instances. (Wis. Ins. Sur.). ILLINOIS - Grasshopper populations, mainly Melanoplus spp., generally lower than for past few years. (Ill. Ins. Rpt., Sept. 10). MISSOURI - Numbers of Melanoplus spp. declining over southwestern district; probably due to wet condition. No economic population observed. (Houser). OKLAHOMA - Damage to rangeland and crops by several species continues in Mayes and Cleveland Counties. Moderate to heavy in most of northwest and panhandle counties. (Okla. Coop. Sur.). NEW MEXICO - Spotted and heavy; clipping off silks of corn and feeding on foliage in Sandoval

area, Sandoval County. (N.M. Coop. Rpt.). COLORADO - Several species abundant around cropland and vacant fields in Mesa, Delta and Montrose Counties; some controls underway. (Bulla). WYOMING - Several species causing severe feeding damage to seedling winter wheat in localized areas of Crook County. (Ferrell, Marks). UTAH - Total of 63,611 acres of range and crop lands treated in Sanpete County during year. (Pernell, Knowlton). Grasshoppers, mainly Melanoplus sanguinipes (migratory grasshopper), moderately numerous cn Wasatch Front areas from Hot Springs to Honeyville and in Blue Creek area dryfarm grain in Box Elder County and in Wellsville-Hyrum-Avon area of Cache County. (Knowlton).

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Caused considerable breakage of plants; up to 70 percent in northeast. Infested some milo fields; up to 10 percent. (Simpson). DELAWARE - Adults remain abundant in blacklight trap collections in Sussex County; averaging 35 per night. (Burbutis).

FALL ARMYWORM (Spodoptera frugiperda) - MISSOURI - Larvae two-thirds to three-quarters developed in pretassel sweet corn in Unionville area, Putnam County; ranged 1-3 per plant on 100 percent of plants. (Thomas).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - NEBRASKA - Heavy in corn; caused 60 percent damage in field in Hall County. (Rhine, Roselle).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - ILLINOIS - Collected for the first time in Hancock County. (Moore, Petty).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - MICHIGAN - Adults more numerous in Wayne County fields than in previous years; still active on plants. (Newman, Kidd).

CHINCH BUG (Blissus leucopterus) - INDIANA - Second generation injuring corn and Sudan grass locally in Madison County. (Matthew).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - OREGON - Heavy on fields of sweet corn in Willamette Valley but damage appears light. (Stephenson).

HESSIAN FLY (Mayetiola destructor) - ILLINOIS - Wheat stubble collected in July and percent of infested tillers and number of puparia per 100 tillers now determined. State average of 1.28 percent of tillers infested and average of 1.5 puparia per 100 tillers is lowest population found in many years. Percent tillers infested, by district, as follows: West 2, central 0, east 2, west-southwest 0.67, east-southeast 0.40, southwest 3.04, southeast 0.80. Puparia per 100 tillers, by district, as follows: West 2, central 0, east 2, west-southwest 1.07, east-southeast 0.40, southwest 3.68, southeast 0.80. (Ill. Ins. Rpt., Sept. 10).

SORGHUM MIDGE (Contarinia sorghicola) - ARIZONA - New infestations appearing on Johnson grass in Graham County; none found on maize and sorghums. (Ariz. Coop. Sur.).

WHEAT JOINTWORM (Harmolita tritici) - ILLINOIS - Survey indicated average of 0.42 percent of tillers infested; this State average is very low but slightly higher than in 1963 and 1964. (Ill. Ins. Rpt., Sept. 10).

GREENBUG (Schizaphis graminum) - TEXAS - Averaged less than one per foot on large, volunteer wheat in Randall County. Continues present on western wheatgrass in most of panhandle. (Daniels).

A PYRAUSTID MOTH (Marasmia trapezalis) - FLORIDA - Larvae causing heavy damage in spots to pasture grasses, particularly Pangolagrass (Digitaria decumbens), at Belle Glade, Palm Beach County. (Genung, Sept. 9). Attacking about 50 percent of leaf tips of well-developed sugarcane in 300-acre field at Belle Glade. No controls recommended. (Genung).

A NOCTUID MOTH (Mocis sp.) - FLORIDA - Larvae severely damaging stem and leaves of maidencane at Davie, Broward County. (Clinton, Shirah, Sept. 9).

WHITE GRUBS (Phyllophaga spp.) - ALABAMA - Larvae extremely heavy in 300-acre planting of fescue in Dallas County; damaged about 75 acres. (McQueen).

A SCARAB - NEVADA - Larvae of undetermined species medium and damaging turf on golf course in North Las Vegas, Clark County. (Zoller).

A WEEVIL (Hyperodes maculicollis) - NEW YORK - Species reported in CEIR 15(28):748 as probably H. anthracinus damaging turf at Ithaca and on Long Island determined as H. maculicollis by H. Dietrich. (N.Y. Wkly. Rpt., Aug. 9).

A SPITTLEBUG (Prosapia bicincta) - FLORIDA - Adults causing economic damage to recently planted St. Augustine grass pasture at Belle Glade, Palm Beach County. (Genung). Sizeable number of clumps 5-6 inches in diameter in poor condition from feeding; 6-12 adults per clump easily found; 300 acres of infested pasture treated. (Fla. Coop. Sur.).

AN ARMORED SCALE (Odonaspis ruthae) - ARIZONA - Damaging Bermuda grass lawns in Yuma County. (Ariz. Coop. Sur.).

BERMUDAGRASS MITE (Aceria neocynodonis) - ARIZONA - Moderate and damaging Bermuda grass lawns in Tucson area, Pima County. (Ariz. Coop. Sur.).

MILLIPEDS - WISCONSIN - Problem on many new lawns in Winnebago County. (Wis. Ins. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - CONNECTICUT - Mature apterae, possibly this species, collected on alfalfa September 7 in New Haven County. (Kring). MICHIGAN - Small numbers of aphids, possibly this species, taken September 7 from alfalfa in Shiawassee County, found in one of 9 fields sampled. Adults and nymphs taken from 12 of 15 alfalfa fields in southwest area September 14. Collections made in Calhoun, Branch, St. Joseph, Cass and Van Buren Counties. No specimens taken in recent samplings in Gratiot, Oakland, and Wayne Counties. Ranged 2-30 (averaged 11) per 10 sweeps in infested fields September 14; field population 15 percent winged forms. (Bath, Newman). OKLAHOMA - Moderate in Greer County alfalfa; generally light in northwest area. (Okla. Coop. Sur.). KANSAS - Averaged 5 per sweep in alfalfa at Hays September 2. (Harvey). NEBRASKA - Moderate in Dundy County; averaged 55 per 10 sweeps. (Stevens). Light in Howard and Holt Counties; averaged under 1 per sweep. None detected in Pierce and Butler Counties. (Manglitz). UTAH - Damaged 500 acres of alfalfa in Abram area, Millard County. (Knowlton).

PEA APHID (Acyrthosiphon pisum) - OHIO - Continues plentiful on alfalfa in State; ranges 10-25 per sweep in Vinton and Morgan Counties. Substantial populations of lady beetles and damsel bugs present. (Rose). MICHIGAN - Adults and nymphs ranged 2-350 (averaged 132) per 10 sweeps in 20 alfalfa fields in Gratiot, Calhoun, Branch, St. Joseph, Cass and Van Buren Counties sampled September 10 and 14. (Bath, Newman). WISCONSIN - Averaged about 8 per sweep in northwest area. (Wis. Ins. Sur.). NEBRASKA - Light in Dundy County. (Stevens). Light to very light in Howard, Holt, Pierce and Butler Counties. (Manglitz). KANSAS - Averaged 20 per sweep at Hays on September 2. (Harvey). OKLAHOMA - Active in alfalfa in Rosston area, Harper County; averaged 22 per 10 sweeps. (Okla. Coop. Sur.). WYOMING - Very light on alfalfa in Johnson, Sheridan, Campbell, Crook, Weston and Niobrara Counties. Ranged 10-65 per 100 sweeps. (Marks).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Adults ranged 0-18 (averaged 8) per 10 sweeps in 20 alfalfa fields in Gratiot, Calhoun, Branch, St. Joseph, Cass and Van Buren Counties September 10 and 14. (Bath, Newman).

POTATO LEAFHOPPER (Empoasca fabae) - NEBRASKA - Ranged 5-27 (averaged 10) per 10 sweeps in Dundy County. (Stevens). Light in Howard, Holt, Pierce and Butler Counties. (Manglitz). WISCONSIN - Few nymphs present in alfalfa in northwest area. (Wis. Ins. Sur.). MICHIGAN - Adults ranged 0-20 (averaged 9.5) and nymphs ranged 0-15 (averaged 3.5) per 10 sweeps in 20 alfalfa fields in Gratiot, Calhoun,

Branch, St. Joseph, Cass and Van Buren Counties September 10 and 14. (Bath, Newman). OHIO - Averaged about 4 per sweep in alfalfa in Lawrence County. (Rose)

LEAFHOPPERS (Draeculacephala spp.) - OHIO - Averaged about 3 per sweep in alfalfa in Lawrence County. (Rose).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - MICHIGAN - Adults ranged 0-8 (averaged 3) and nymphs ranged 0-30 (averaged 4.3) per 10 sweeps in 20 alfalfa fields in Gratiot, Calhoun, Branch, St. Joseph, Cass and Van Buren Counties September 10 and 14. (Bath, Newman).

TARNISHED PLANT BUG (Lygus lineolaris) - MICHIGAN - Adults ranged 0-20 (averaged 7.3) per 10 sweeps in alfalfa in Gratiot, Calhoun, Branch, St. Joseph, Cass and Van Buren Counties September 10 and 14. (Bath, Newman).

LYGUS BUGS (Lygus spp.) - ARIZONA - Slight increase in nymphal counts in alfalfa in Graham, Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - MICHIGAN - Larvae ranged 0-6 per 10 sweeps in 20 alfalfa fields in Gratiot, Calhoun, Branch, St. Joseph, Cass and Van Buren Counties September 10 and 14. (Bath, Newman). NEW MEXICO - Ranged 1-3 larvae per 25 sweeps in alfalfa near Tularosa, Otero County. (Mathews).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Heavy in alfalfa in Payne County; averaged 25 per square yard in seedling alfalfa in Jackson County. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - WYOMING - Adults ranged 42-50 per 100 sweeps in alfalfa in Johnson and Sheridan Counties. (Marks).

CLOVER ROOT CURCULIO (Sitona hispidula) - COLORADO - Numerous on alfalfa in Conejos County. (Porter, Hantsbarger).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - MICHIGAN - Adults ranged 1-11 per 10 sweeps in 5 alfalfa fields in Oakland and Wayne Counties September 14. (Newman).

ALFALFA SEED CHALCID (Bruchophagus roddi) - NEBRASKA - Alfalfa field 50 percent infested near Mead, Saunders County. (Kindler, Schalk).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Heavy in 3 of 5 soybean fields in major agricultural area of Mobile County. (Seibels). VIRGINIA - Light in most fields checked; heavy in 2 fields in Westmoreland County and 1 field in King and Queen County. (Isakson).

BEAN LEAF BEETLE (Cerotoma trifurcata) - TENNESSEE - Feeding on soybean foliage; no controls recommended. (Johnson). VIRGINIA - Light to medium in most Northern Neck counties. (Isakson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Moderate to heavy in 2 of 5 soybean fields in major agricultural area of Mobile County. (Seibels). Light in treated soybean field in Baldwin County. (Turner et al.). TENNESSEE - Feeding on soybeans; controls not recommended. (Johnson).

A NOCTUID MOTH (Pseudoplusia includens) - ALABAMA - Light in 1 of 5 fields of soybeans in major agricultural area of Mobile County. (Seibels). Light in treated soybean field in Baldwin County. (Turner et al.).

CABBAGE LOOPER (Trichoplusia ni) - ALABAMA - Light in 1 of 5 soybean fields examined in major agricultural area of Mobile County. (Seibels). Light in treated soybean field in Baldwin County. (Turner et al.). Medium to heavy on soybean field in Marengo County. (Yates et al.).

STINK BUGS - TENNESSEE - Euschistus servus (brown stink bug) and Acrosternum hilare (green stink bug) becoming numerous in many soybean fields. Inspection

of fields urged. (Johnson). VIRGINIA - Acrosternum hilare (green stink bug) light to absent in most fields checked. Averaged 1 per foot of row in Richmond County. (Isakson). NORTH CAROLINA - Several species ranged 11-30 (averaged 21) per 50 feet of row in 4 soybean fields in Scotland County. (Mount). ALABAMA - Adults and nymphs very light in 5 soybean fields in major agricultural area of Mobile County. (Seibels).

HARLEQUIN BUG (Murgantia histrionica) - VIRGINIA - Light in soybeans in Mathews County. (Isakson, Dinwiddie).

A BRUSH-FOOTED BUTTERFLY (Chlosyne lacinia) - CALIFORNIA - Larvae, probably this species, heavy and feeding on sunflowers at Bard, Imperial County. (Cal. Coop. Rpt.).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW MEXICO - Heaviest losses found in untreated or improperly treated apple orchards in Sandoval County. August flight appeared later than in 1964. (Heninger). COLORADO - Sex attractant traps reveal little adult activity in past 2 weeks. Cool temperatures make late cover spray unlikely. (Bulla). OHIO - Numerous cocoons indicate heavy infestations on apple trees in abandoned fruit farm near Worthington, Franklin County. (Smith). ALABAMA - Larvae feeding in apple fruit in Pickens County. (Balch, Bagby).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - COLORADO - Peach harvest being completed with few larvae found in fruit. (Bulla).

PEACH TWIG BORER (Anarsia lineatella) - COLORADO - Larvae light in all peach fruit checked to date. (Bulla).

SALT-MARSH CATERPILLAR (Estigmene acrea) - CALIFORNIA - Larvae heavy on leaves of pear at San Juan Bautista, San Benito County. (Cal. Coop. Rpt.).

PEACH SILVER MITE (Aculus cornutus) - UTAH - Injuring peach foliage in commercial peach orchard at Perry, Box Elder County. (Knowlton, Allred).

SPIDER MITES (Tetranychus spp.) - UTAH - Severely damaging pear leaves and moderately damaging apple leaves in home orchard at Logan, Cache County. (Knowlton).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - COLORADO - Populations high in few apple orchards in Paonia and Cedaredge areas, Delta County, and occasionally in Mesa County. Most orchards have fair to good control. Overwintering forms predominate; little buildup expected for remaining season. (Bulla).

EUROPEAN RED MITE (Panonychus ulmi) - OHIO - Populations sharply declining at Wooster, Wayne County. (Forsythe). CALIFORNIA - Adults heavy on apple leaves at Soquel, Santa Cruz County. (Cal. Coop. Rpt.).

APPLE MAGGOT (Rhagoletis pomonella) - MICHIGAN - Adults still present in reduced numbers in some unsprayed apple varieties in Oakland and Ingham Counties. (Austin). INDIANA - Infesting crab apple in Lafayette area, Tippecanoe County. (Lehker).

PEAR PSYLLA (Psylla pyricola) - OREGON - Heavy in all pear-growing areas of State; many growers in Willamette Valley applying postharvest sprays. (Stephenson).

A CHERRY FRUIT FLY (Rhagoletis cingulata indifferens) - OREGON - Continues active in Willamette Valley; adults collected on sticky board and walnut husk fly traps in walnut orchards and on walnut trees along street and roadsides. (Larson).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Single adult caught in Frick trap in Persian walnut at Gridley, Butte County. This is a new county record and the northernmost record for State. (Cal. Coop. Rpt.).

APHIDS - ALABAMA - Extremely large numbers of Melanocallis caryaefoliae (black pecan aphid) and Monellia spp. on pecan trees in Lee and other counties in central section. Lesser numbers observed in Baldwin and Escambia Counties. (Bagby et al.)

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Moderate to heavy on pecans in Cleveland County. (Okla. Coop. Sur.).

WALNUT CATERPILLAR (Datana integerrima) - VIRGINIA - Severe and stripping leaves from pecan tree in Halifax, Halifax County. (Isakson, Shaw, Sept. 8). ALABAMA - Pupating in pecan and walnut orchards in Marengo, Lee, Baldwin and other counties. (McQueen).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Pupation and adult emergence occurring in pecans in Lee, Baldwin, Escambia and other counties. Larvae range 1-3 in many pecan husks. (Bagby et al.).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Moderate to heavy on pecan and other trees in Cleveland and Garfield Counties. (Okla. Coop. Sur.). ARKANSAS - Extremely heavy in northwest section; lighter elsewhere. Many walnut trees completely defoliated, affecting size and quality of nuts. Partial second generation appearing in northern counties. (Ark. For. Pest Rpt., Sept.). ALABAMA - Larvae occurring on untreated pecan, walnut, persimmon and sweetgum trees in Baldwin and Escambia Counties; but not on treated trees. Lesser numbers occurring in Montgomery and other counties. (Hagler, Bagby, Thompson et al.). MICHIGAN - Larvae defoliating blueberry plantings in southwest section. Plantings near apple and wild cherry trees suffering most. (Burger, Newman).

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma) - MICHIGAN - Larvae defoliating blueberry plantations in southwest section. Plantings near apple and wild cherry trees suffering most. (Burger, Newman).

RED-HUMPED CATERPILLAR (Schizura concinna) - MICHIGAN - Larvae defoliating blueberry plantations in southwest section. Plantings near apple and wild cherry trees suffering most. (Burger, Newman).

LEAF ROLLER MOTHS - NEW MEXICO - Adults, probably Archips argyrospilus (fruit-tree leaf roller) and Argyrotaenia velutinana (red-banded leaf roller), heavy in light traps during June and July but larvae caused only minor damage in Sandoval area, Sandoval County, in orchards with adequate spray program. (Heninger). MASSACHUSETTS - Larvae of Sparganothis sulfurana feeding on and webbing cranberry fruit in picking boxes in southeastern area. (Tomlinson, Sept. 10).

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Continued controls required for bud growth protection in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

A SPIDER MITE (Tetranychus mcdanieli) - NEW MEXICO - Light to heavy and damaging foliage in Bernalillo and Sandoval Counties. Populations especially heavy in July. (Heninger).

TRUCK CROP INSECTS

TOMATO FRUITWORM (Heliothis zea) - MARYLAND - Causing considerable concern in 16 acres of tomatoes near Fort Meade, Anne Arundel County. (U.Md., Ent. Dept.). NORTH CAROLINA - Undetermined caterpillars reported in CEIR 15(38):1107 determined as this species. Sweetpotato field actually located in Sampson County, near Dunn, Harnett County. (Mount). NEW MEXICO - Caused considerable damage to tomatoes in Bernalillo and Sandoval Counties (Heninger). Spotted damage in tomatoes and beans in Las Cruces area, Dona Ana County (Nielsen).

POTATO TUBERWORM (Gnorimoschema operculellum) - VIRGINIA - Rather heavy infestations noted in foliage of fall potatoes on Eastern Shore. (Hofmaster, Sept. 15). RHODE ISLAND - Species reported in CEIR 15(36):1038 as a leaf miner identified as this species by D. M. Weisman. (Mathewson).

TOMATO HORNWORM (Protoparce quinquemaculata) - NEW MEXICO - Problem on tomatoes in Bernalillo and Sandoval Counties. (Heninger).

LOOPERS (Trichoplusia spp.) - NORTH CAROLINA - Averaged 1-2 per head in about 15 treated fields of commercial cabbage in Watauga County. (Scott). Feeding on lima beans in garden in Henderson County. (Robertson). VIRGINIA - T. ni (cabbage looper) populations on Eastern Shore beginning to recover from virus attack. Some larvae parasitized by encyrtids, Litomastix spp. (Hofmaster, Sept. 15).

IMPORTED CABBAGEWORM (Pieris rapae) - VIRGINIA - Appears to have decreased on Eastern Shore, apparently due to heavy parasitism. (Hofmaster, Sept. 15).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - VIRGINIA - First adult of season on Eastern Shore taken in light trap. (Hofmaster, Sept. 15).

COTTON SQUARE BORER (Strymon melinus) - VIRGINIA - Observed in snap beans on Eastern Shore. (Hofmaster, Sept. 15).

COTTON LEAFWORM (Alabama argillacea) - VIRGINIA - First adult of season on Eastern Shore taken in light trap. (Hofmaster, Sept. 15).

SOUTHERN ARMYWORM (Prodenia eridania) - ALABAMA - Larvae heavy in one-half acre sweetpotato planting in Mobile County. Controls necessary. (Deakle).

SWEETPOTATO LEAF ROLLER (Pilocrocis tripunctata) - ALABAMA - Larvae heavy in one-half acre sweetpotato planting in Mobile County. Controls necessary. (Deakle).

BLACK CUTWORM (Agrotis ipsilon) - RHODE ISLAND - Species carried in CEIR 15(36): 1038 as probably Agrotis ipsilon (black cutworm) identified as this species by D. M. Weisman. (Mathewson).

MEXICAN BEAN BEETLE (Epilachna varivestis) - OHIO - Heavy on pole and snap beans in home garden near Mt. Gilead, Morrow County. Last instar predominant, few adults present. Severe skeletonizing occurred with up to 5-6 larvae per leaf. (Lyon). COLORADO - Observed moving from bean fields toward foothills in Larimer County. (Thatcher).

FULLER ROSE BEETLE (Pantomorus godmani) - CALIFORNIA - Larvae heavy in soil around strawberry roots at Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

APHIDS - DELAWARE - Myzus persicae (green peach aphid) building up on peppers in Sussex County; average 10 per leaf. (Burbutis). VIRGINIA - Hyadaphis pseudobrassicae (turnip aphid) found on turnip greens on Eastern Shore. Brevicoryne brassicae (cabbage aphid) scattered throughout Eastern Shore in varying degrees on most cole crops. (Hofmaster, Sept. 15).

HARLEQUIN BUG (Murgantia histrionica) - NEW MEXICO - Heavy spotted infestations problem in home garden and commercial cabbages in Bernalillo and Sandoval Counties. (Heninger).

SQUASH BUG (Anasa tristis) - OKLAHOMA - Continues to damage cucumber and cantaloup in home gardens in Kay County. (Okla. Coop. Sur.).

THRIPS (Frankliniella spp.) - OREGON - Medium in some sugar beet seed fields in Willamette Valley. (Stephenson).

COTTON INSECTS

BOLLWORMS (Heliothis spp., et al.) - CALIFORNIA - Bollworms dominant pest of cotton. Counts in some Shafter and Rosendale area fields range from lows of 2-3 to highs of 90 per 100 plants. Extremely high levels of abundance appear less common. Beneficial species markedly lacking in heavier infested fields. Trichoplusia ni (cabbage looper) evident in most fields in San Joaquin Valley; some fields with moderate to severe defoliation on lower portions of plants. (Leigh, Sept. 9). ARIZONA - Infestations of H. zea (bollworm) continue increase in many areas of Graham, Pima, Pinal, Maricopa and Yuma Counties; control efforts increased. (Ariz. Coop. Sur.). NEW MEXICO - H. zea mostly light spotted infestations in Dona Ana County cotton fields. (Garcia, Gomez). OKLAHOMA - H. zea egg counts ranged 7-20 percent in cotton checked in Jackson, Greer, Beckham and Cleveland Counties. (Okla. Coop. Sur.). ARKANSAS - H. zea and T. ni adults and eggs very numerous in green cotton; larvae of both species no problem; apparently not becoming established. (Boyer). ALABAMA - Heliothis spp. larval damage rather heavy in Marion, Tuscaloosa and Chambers Counties. (Price, Holstun, Stewart).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Larval counts slowly increasing in scattered areas of Pinal and Maricopa Counties. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Apparently increasing with some migration noticeable in Graham, Pinal, Pima and Maricopa Counties; damage continues light. (Ariz. Coop. Sur.).

FALSE CELERY LEAF TIER (Udea profundalis) - CALIFORNIA - Evident in portions of Tulare County; developing heavy infestations now under control. (Leigh, Sept. 9).

A LEAF ROLLER MOTH (Platynota stultana) - CALIFORNIA - Evident throughout much of San Joaquin Valley; no economic infestations noted. (Leigh, Sept. 9).

PINK BOLLWORM (Pectinophora gossypiella) - OKLAHOMA - Lint-cleaner inspections in Harmon, Kiowa and Washita Counties negative. Two inspections in Jefferson County positive. (Okla. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Spreading and increasing in cotton fields of Yuma County; controls necessary in many fields. (Ariz. Coop. Sur.).

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Continue heavy damage to late cotton in Marion, Sumter, Tuscaloosa and other northern counties. (Price, Story, Holstun). OKLAHOMA - Infestations heavy (up to 80 percent) in untreated fields in southwest, southeast and north central areas; light (2-15 percent) in Beckham County. Averaged 17 percent in treated fields in Greer County. (Okla. Coop. Sur.).

A BLACK COTTON FLEAHOPPER (Spanogonicus albofasciatus) - NEW MEXICO - Ranged 2-12 adults per 25 sweeps in cotton fields in southern Dona Ana County. (Gomez, Garcia).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Evident in most fields in San Joaquin Valley; few situations with 25-35 per 50 sweeps with evident damage to small bolls. Controls recommended for late-set bolls only. (Leigh, Sept. 9).

COTTON APHID (Aphis gossypii) - CALIFORNIA - Evident in most cotton fields inspected in San Joaquin Valley; inspections urged until harvest to prevent honeydew deposits on lint of open bolls. (Leigh, Sept. 9).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BARK BEETLES - VIRGINIA - Ips spp. attacking loblolly pine in few scattered spots of 5-40 trees in Brunswick County. (Berisford). NORTH CAROLINA - Dendroctonus frontalis (southern pine beetle) more serious or at least potentially more serious over State than during past 10 years. Not quite as severe in any one general area as 3 years ago but much more widely scattered. (For. Pest Newsltr., Sept. 10). ARKANSAS - Seasonal increase of undetermined species noted, particularly in dry areas. Lightning and fires caused increased activity locally in southern half of State. Salvage and control treatments checking any serious buildups in hazard areas. Local increased activity of D. terebrans (black turpentine beetle) noted.(Ark. For.Pest Rpt.,Sept.). CALIFORNIA - Heavy population of Phloeosinus cristatus in twigs of Arizona cypress at Marysville, Yuba County. (Cal. Coop. Rpt.).

A WEEVIL (Cossonus corticola) - VIRGINIA - Abundant on pine in Norfolk area. (Greenwood, September 11).

PINE TIP MOTHS - ARKANSAS - Activity declining but will continue until frost where recent growth available for food. Valuable trees need protection through September. (Ark. For. Pest Rpt., Sept.). NORTH CAROLINA - Rhyacionia frustrana (Nantucket pine tip moth) quite prevalent on loblolly plantations in Brunswick and Columbus Counties this year. (For. Pest Newsltr., Sept. 10).

A SAWFLY (Neodiprion taedae linearis) - ARKANSAS - Adult emergence expected to begin in latter part of September and reach peak in mid-October. (Ark. For. Pest Rpt., Sept.).

LARCH SAWFLY (Pristiphora erichsonii) - OREGON - Found in 1964 infesting 2,500 acres of mature western larch; again infesting several thousand acres in Mt. Hood National Forest. Also found at 6 locations in Wallowa-Whitman National Forest. (Orr, USFS).

A LEAF BEETLE (Zeugophora scutellaris) - COLORADO - Considerable defoliation of cottonwood trees in Arapahoe County. Similar damage observed in other areas. (Lane, Hantsbarger).

GYPSY MOTH (Porthetria dispar) - OREGON - Inspections of 100 traps in trailer camps, truck turnarounds and parks throughout State negative. (Larson).

OAK LACE BUG (Corythucha arcuata) - OHIO - Large numbers fed on oak leaves near Nipgen, Ross County. Nymphs predominated; damage minor in this forested area. (Rose). MICHIGAN - Caused injury to oaks in Eaton County. (Wallner).

SYCAMORE LACE BUG (Corythucha ciliata) - MICHIGAN - Causing injury to sycamore foliage in Monroe and Ingham Counties. (Wallner).

A STENOMID MOTH (Stenoma humilis) - ALABAMA - This species, Psilocorsis quercicella (an oecophorid moth) and larvae of a gelechiid quite numerous and mining leaves of oaks throughout State, especially Quercus nigra. Det. by D. M. Weisman. (McQueen).

AN OAK PETIOLE GALL (Andricus petiolicola) - NORTH DAKOTA - Moderate infestations on bur oak in Cass and Richland Counties. (Stein).

GREEN-STRIPED MAPLEWORM (Anisota rubicunda) - FLORIDA - Severely damaging leaves of maple at Ft. Pierce, St. Lucie County, September 6. (Vakili).

BLACK PECAN APHID (Melanocallis caryaefoliae) - MARYLAND - Conspicuously infesting shagbark hickory trees at Bittinger, Garrett County. (U. Md., Ent. Dept.) CALIFORNIA - Heavy on pecan leaves at Chico, Butte County. (Cal. Coop. Rpt.)

APHIDS - CALIFORNIA - Population of Aphis nerii (oleander aphid) heavy on leaves of oleander at Watsonville, Santa Cruz County. (Cal. Coop. Rpt.). NEVADA - Infestations of Liosomaphis berberidis increasing on barberry in Reno-Sparks area, Washoe County. Honeydew quite noticeable on many plants. (Coop. Rpt.). UTAH - Lachnus salignus numerous on bark of willow at Mantua in Box Elder County. Periphyllus lyropictus (Norway-maple aphid) numerous on trees in areas of Cache and Box Elder Counties. (Knowlton). ALABAMA - Macrosiphum liriodendri (tuliptree aphid) extremely numerous on tuliptrees, lawns and along streets in Auburn, Lee County. Heavy sooty mold occurring. (McCarter et al.). MARYLAND - Undetermined species very heavy on bark of pin oak at Bryans Road, Charles County. Monellia nigropunctata conspicuously infesting shagbark hickory trees at Bittinger, Garrett County. (U. Md., Ent. Dept.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - ARKANSAS - Still active but adults already entering hibernation sites. Controls not recommended. (Ark. For. Pest Rpt., Sept.). KANSAS - Larval populations decreased considerably at Salina; oviposition apparently ended. (Thompson). OKLAHOMA - Heavy on elms in Mayes, Cotton and Cleveland Counties. Moderate to heavy in most northwest counties. (Okla. Coop. Sur.). NEW MEXICO - Caused heavy defoliation on smaller Chinese elms; some dying in Sandoval area, Sandoval County. (N.M. Coop. Rpt.).

HACKBERRY-NIPPLE-GALL MAKER (Pachypsylla celtidismamma) - OHIO - Heavy on hackberry trees in Hilliard, Franklin County. (Rose).

SPIDER MITES - MARYLAND - Undetermined species infesting shagbark hickory trees at Bittinger, Garrett County. (U. Md., Ent. Dept.). FLORIDA - Tetranychus telarius (two-spotted spider mite) larvae severely damaged leaves of rose in nursery at Floral City, Citrus County. (Williams). INDIANA - Populations of Eotetranychus multidigituli heavier than in previous years in northern one-third of State. (Clark). OHIO - Oligonychus ununguis (spruce spider mite) infesting spruce near Solon, Cuyahoga County. (Delaplane).

POPLAR TENT MAKER (Ichthyura inclusa) - FLORIDA - Larvae severely damaging leaves of willow in nursery at Tallavast, Manatee County, September 7. (Bickner).

A FALSE HEMLOCK LOOPER (Nepytia phantasmaria) - OREGON - Adults noted in Portland area, Multnomah County. (Orr, USFS).

BROAD-NECKED ROOT BORER (Prionus laticollis) - INDIANA - Heavy on hemlock stock in Marion County. (Clark).

JAPANESE BEETLE (Popillia japonica) - OHIO - Many adults on roses and other plants in a nursery, September 14, in Lake County near Kirtland Hills. (Forsythe).

A LEAF BEETLE (Lema trilineata trivittata) - CALIFORNIA - Heavy larval and adult populations on leaves of cape-gooseberry (Physalis peruviana) at Ramona, San Diego County. (Cal. Coop. Rpt.).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - OHIO - Adults reported feeding on petals of dahlia in Warren County, September 9. Counts of 5-25 beetles per flower. Burrowing and feeding at petal bases resulted in flecking of blooms as they opened. (Cooley, Walker).

AZALEA CATERPILLAR (Datana major) - ALABAMA - Medium, widespread infestations on azaleas throughout Geneva County. (Smith).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Activity continues on evergreens in Mayes and Garfield Counties. (Okla. Coop. Sur.). MISSOURI - Males began emerging about September 10 in Columbia area of Boone County. (Craig).

FLORIDA FERN CATERPILLAR (Callopistria floridensis) - FLORIDA - Larvae severely damaging leaves of unknown species of Boston fern in nursery at Apopka, Orange County. (Musgrove).

FALL WEBWORM (Hyphantria cunea) - MISSOURI - Continues problem in southwestern district. Larvae feeding on several unusual hosts including ornamental flowers and shrubs. Invading homes following complete defoliation of host tree. (Houser).

TOBACCO BUDWORM (Heliothis virescens) - CALIFORNIA - Larvae heavy on geranium at Red Bluff, Tehama County. (Cal. Coop. Rpt.).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - INDIANA - Severely damaged a gladiolus planting in Tippecanoe County. (Schuder).

EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) - DELAWARE - Unusual infestation in stems of living geranium plants in New Castle County. (MacCreary).

PEA LEAF MINER (Liriomyza bryoniae) - CALIFORNIA - Light population mining leaves of zinnia at Santa Paula, Ventura County. (Cal. Coop. Rpt.).

A SNAIL (Oxyloma effusa) - FLORIDA - Adults severely damaging leaves of Aphrelandra sp. in nursery in Apopka, Orange County; noted in soil. (Musgrove).

STRIPED MEALYBUG (Ferrisia virgata) - CALIFORNIA - Light on copper-plant and heavy on chrysanthemum and lantana at Brawley; light on chrysanthemum at El Centro, Imperial County. (Cal. Coop. Rpt.).

TEA SCALE (Fiorinia theae) - ALABAMA - Damaging populations on camellia and Burford holly in Lee, Baldwin and Escambia Counties. (Hagler et al.).

WHITEFLIES - ALABAMA - Heavy adult populations emerging from gardenia ornamental plantings generally over State. On privet throughout State. Leaves of shrubs, even after heavy "hatchouts", still contain 10-50 immatures. Considerable residue from feeding deposited on leaves. (Baskin et al.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - LOUISIANA - Operation of 24 light traps distributed throughout Jefferson Parish showed approximate twofold increase in total number collected; probably due to increased rainfall during past 2 weeks. Increase mainly in floodwater species: Aedes sollicitans (salt-marsh mosquito), A. vexans, A. taeniorhynchus and Psorophora confinnis. More noticeable increase evident in southern part of parish. Total of 48,000 mosquitoes collected during period August 1-15, total of 90,000 collected August 16-31. (Stokes). Total of 43 larval collections made by Jefferson Parish Department of Mosquito Control week ending September 17 yielded 10 Aedes sollicitans, 2 A. vexans, 1 A. infirmatus, 5 Anopheles quadrimaculatus, 2 Culex erraticus, 3 C. salinarius, 5 C. pipiens quinquefasciatus, 12 Psorophora confinnis and 1 P. howardii. In 60 landing rate counts, 30 collections made; 18 Aedes sollicitans, 10 Anopheles quadrimaculatus, 1 Anopheles atropos and 1 Aedes triseriatus. Large salt marsh breeding ground on Grande Isle disturbed by Hurricane Betsy surveyed for 2 days; all samples taken negative. Psorophora horrida recorded for first time in Jefferson Parish. P. confinnis increased in light trap collections possibly due to floodwater left by hurricane. (Jeff. Parish Dept. Mosq. Contr.). OKLAHOMA - Several species extremely abundant around lights at night in many areas; extremely annoying and entering homes. (Okla. Coop. Sur.). ARIZONA - Heavy infestations of Culex tarsalis, Aedes vexans, Psorophora spp. and Anopheles spp. in Yuma Valley, Wellton area and Yuma Proving Grounds near Colorado River. Controls underway. (Ariz. Coop. Sur.). UTAH - Moderately annoying in fields and orchards in Box Elder County in areas from Hot Springs to Collinston and in range areas of western Box Elder County from Great Salt Lake and at Blue Creek. (Knowlton). NEVADA - Adults of Culex tarsalis medium at Nellis Air Force Base, Clark County. (Funk).

HORN FLY (Haematobia irritans) - OKLAHOMA - Averaged 1,000 per head on cows in Pushmataha, Choctaw and McCurtain Counties. Heavy in Cotton County; moderate in Mayes and Cleveland Counties. (Okla. Coop. Sur.). UTAH - Adult population decreasing in Box Elder and Cache Counties; some animals with 20-30 or more flies. (Knowlton).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 30 per head on cows in southeast areas. (Okla. Coop. Sur.). UTAH - Troubling livestock in Brigham-Perry-Willard areas of Box Elder County and in Wellsville-Hyrum-Paradise areas of Cache County. (Knowlton). WYOMING - Ranged 0-15 adults per animal in herds in Sheridan County. (Marks).

TABANID FLIES - OKLAHOMA - Tabanus spp. averaged 2 per head on cows in southeast area. (Okla. Coop. Sur.). FLORIDA - Chrysops parvulus taken on man at Glen St. Mary, Baker County; 18 females taken. (Collins, Aug. 26). This is a rarely collected deer fly. (Fla. Coop. Sur.).

BLACK FLIES - UTAH - Annoying cattle and horses in Brigham City area, Box Elder County. (Knowlton).

HORSE BOT FLY (Gasterophilus intestinalis) - OKLAHOMA - Adults averaged 1 per head on horses in Payne County. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - MISSOURI - Average per face on herds used in population studies in north central district counties as follows: Randolph 3.0, Macon 17.9 and Adair 6.0. (Thomas). UTAH - Continues troublesome in Brigham and Mantua areas of Box Elder Counties; none taken in Paradise-Avon areas of Cache County. (Knowlton, Hanson).

HOUSE FLY (Musca domestica) - COLORADO - Flies, primarily this species, increased considerably in cattle feedlots in northeastern area. (Hantsbarger).

VESPID WASPS - MASSACHUSETTS - Vespula maculata (bald-faced hornet) nests more numerous than usual in southeast; many complaints. (Tomlinson). RHODE ISLAND - Normal seasonal complaints noted in Providence, Providence County; Warwick, Kent County; and Wakefield, Washington County. (Mathewson, Veilleux, Hannah). INDIANA - V. maculata causing concern in Indianapolis area, Marion County; heavier populations than previously noted. (Clark). WISCONSIN - Vespa spp. numerous in parts of Jackson County; many workers stung. (Wis. Ins. Sur.). UTAH - Polistes spp. numerous about homes; stung woman at Logan, Cache County. Numerous in Brigham City, Box Elder County. (Knowlton).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Nymphs heavy (200 per head) on cattle in Pushmataha, Choctaw and McCurtain Counties. (Okla. Coop. Sur.).

FLEAS (Ctenocephalides spp.) - RHODE ISLAND - Infested homes in Providence and Cranston, Providence County, and West Kingston, Washington County. (Veilleux, Mathewson). NORTH CAROLINA - A problem locally in Lenoir County. (Scott).

IO MOTH (Automeris io) - MARYLAND - Larva "stung" person on hand at Bowie, Prince Georges County. (U. Md., Ent. Dept.).

GIANT WATER BUG (Lethocerus americanus) - NORTH CAROLINA - Bit Craven County boy on finger; caused much pain and local swelling. (Lippitt, Falter).

HOUSEHOLD AND STRUCTURAL INSECTS

ANTS - WYOMING - Winged forms of undetermined species causing concern to homeowners at Lander, Fremont County. (Duncan, Fronk). RHODE ISLAND - Alates of Acanthomyops interjectus (larger yellow ant) active in houses in Warwick, Kent County; and alates of Tetramorium caespitum (pavement ant) swarming in house in Wakefield, Washington County. (Mathewson). MARYLAND - Monomorium pharaonis (Pharoah ant) heavy in large building at College Park, Prince Georges County. (U. Md., Ent. Dept.).

EUROPEAN EARWIG (Forficula auricularia) - UTAH - Still conspicuous in gardens and being carried into homes in northern section along with firewood, flowers, fruit and vegetables. (Knowlton).

CRICKETS - NEVADA - Entering many homes in northwest Reno, Washoe County; averaged 6 per square yard in surrounding fields. (Hunter, Lauderdale).

A BOOKLOUSE (Liposcelis sp.) - FLORIDA - Adults found in books and in book cabinet at Fort Lauderdale, Broward County. (Clinton, Sept. 1).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - VIRGINIA - Still abundant and creating nuisance around homes in Grayson, Wythe and Montgomery Counties. (Isakson, Cassell, Francis, Hepler).

VEGETABLE WEEVIL (Listroderes costirostris obliquus) - CALIFORNIA - Adults heavy in wool carpet at Delano, Kern County. (Cal. Coop. Rpt.).

A ROVE BEETLE (Philonthus sp.) - CALIFORNIA - Heavy in attic at Yuba City, Sutter County. (Cal. Coop. Rpt.).

BOXELDER BUG (Leptocoris trivittatus) - UTAH - Numerous about some homes in Brigham City-Willard area, Box Elder County. (Knowlton). MICHIGAN - Homeowners in Wayne and Ingham Counties made fewer inquires about controls than usual. (Kidd).

LEAFHOPPERS - OKLAHOMA - Several species extremely abundant around lights at night in many areas of State. Extremely annoying in homes. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

Beneficial Insects on Cotton - CALIFORNIA - Green lacewings common throughout most of San Joaquin Valley, larvae evident in many fields. Anthocorid bugs abundant, particularly in west side areas. Collops spp. (melyrid beetles) abundant in all areas of the valley, particularly in fields that have not been treated recently. (Leigh, Sept. 9).

DAMSEL BUGS - MICHIGAN - Adults ranged 0-20, averaged 4, and nymphs ranged 0-6, averaged 1.5, per 10 sweeps in 20 alfalfa fields in Gratiot, Calhoun, Branch, St. Joseph, Cass and Van Buren Counties on September 10 and 14. (Bath, Newman).

LADY BEETLES - MICHIGAN - Adults of various species ranged 0-12 and averaged 4 per 10 sweeps on alfalfa in 20 fields in Gratiot, Calhoun, Branch, St. Joseph, Cass and Van Buren Counties on September 10 and 14. (Bath, Newman).

A PUNCTURE-VINE SEED WEEVIL (Microlarinus lareynii) - UTAH - Apparently has not become established from 2 releases in Perry area, Box Elder County. Release at Santa Clara, Washington County appears well established and helpful. (Knowlton).

AN ENCYRTID WASP (Trechnites insidiosus) - OREGON - Found parasitizing nymphs of Psylla pyricola (pear psylla) in several orchards in Hood River and Jackson Counties. Heavy in small pear orchard in Hood River County in early September. This is a new State record. (Westergard, Berry, Zwick).

MISCELLANEOUS INSECTS

GIANT HORNET (Vespa crabro germana) - INDIANA - Single specimen taken June 29 by E. Saugstad from house trailer on western edge of New Albany, Washington County. This is a new State record. (Chandler, Aug. 20). Additional specimen taken in county. (Chandler, Sept. 17).

A SKIPPER (Atalopedes campestris) - KANSAS - Hundreds flying southward into the wind between Great Bend, Barton County, and in Ellsworth County. (Knutson).

MONARCH BUTTERFLY (Danaus plexippus) - KANSAS - Many noted flying southward in northeast and east central districts. (Simpson).

A SOLDIER FLY (Hermetia illucens) - NORTH CAROLINA - Larvae fonnd in soybean silage in Yadkin County. (Harzog, Scott).

CORRECTIONS

CEIR 15(6):79 - Last paragraph, lines 8 and 9 Dactylopius sp. (a mealybug) should read Dactylopius sp. (an eriococcid scale)

CEIR 15(16):362 - Last line - a GALL WASP (Plagiotrichus punctatus) should read a GALL WASP (Callirhytis punctatus)

CEIR 15(17):403 - EULOPHIDS - Dasycapus parvipennis should read Dasyscapus parvipennis.

CEIR 15(17):403 - A TORYMID (Eupteromalus nidulans) should read A PTEROMALID WASP (Eupteromalus nidulans)

CEIR 15(20):489 - TABANIDS - Hybometra lasiophthalma should read Hypomitra lasiophthalma.

CEIR 15(23):603 - last line and CEIR 15(25):664 - last paragraph line 6 Labops hesperus should read Labops hesperius

CEIR 15(24):621 - TABANIDS - MARYLAND - Chrysops callida should read Chrysops callidus

CEIR 15(30):822 - SAWFLIES - Megaxyela langstroni should read Megaxyela langstoni.

CEIR 15(32):950 - MOSQUITOES - Line 5 Culex trivittatus should read Aedes trivittatus.

CEIR 15(37):1071 - BOLL WEEVIL (Anthonomus grandis) - Lines 25 through 29 should be deleted. This information pertains to BOLLWORMS (Heliothis spp., et al.), and should have been carried on page 1072, line 10, preceding notes from Missouri.

CEIR 15(38):1095 - BEAN LEAF BEETLE (Cerotoma trifurcata) - INDIANA - Note should read MEXICAN BEAN BEETLE (Epilachna varivestis). Note for VIRGINIA correct for C. trifurcata.

ADDITIONAL NOTES

SOUTH DAKOTA - Low numbers of WESTERN CORN ROOTWORM (Diabrotica virgifera) in corn and alfalfa fields sampled in central and western counties. Adult counts per 100 sweeps ranged 2-4 north of Gann Valley, Buffalo County, and averaged 1 west of Spearfish, Lawrence County. Adults ranged 1-2 per cornstalk west of Wessington Springs, Jerauld County; east of Carter, Tripp County; and east of Piedmont, Meade County. SOUTHERN CORN ROOTWORM (D. longicornis) generally low (2-6 adults per 100 sweeps) in alfalfa fields sampled in Buffalo, Bennett, Jackson, Shannon, Fall River, Custer, Pennington and Lawrence Counties. BUMBLE FLOWER BEETLE (Euphoria inda) feeding on corncob in standing corn east of Carter, Tripp County. Low numbers, 2-25 per 100 sweeps, of SPOTTED ALFALFA APHID (Therioaphis maculata) in alfalfa fields sampled in southwestern and west central sections. Both winged and wingless forms taken north of Tuthill, Bennett County; east of Denby and north of Porcupine, Shannon County; south of Pringle, Custer County; south of Rapid City, Pennington County; east of Piedmont, Meade County; west of Spearfish, Lawrence County; south of Burdock and Hot Springs, Fall River County; near Potato Creek, Washabaugh County; and south of Interior, Jackson County. Custer, Jackson, Lawrence, Meade, Pennington, and Shannon Counties are new county records. CORN EARWORM (Heliothis zea) present in 20 percent of corncobs in field east of Carter, Tripp County. BLACK BLISTER BEETLE (Epicauta pennsylvanica) present in most alfalfa fields in central and southwestern sections. Highest numbers were 4 per square yard north of Gann Valley, Buffalo County, and 12 per 100 sweeps south of Tuthill, Bennett County. ALFALFA WEEVIL (Hypera postica) ranged 1 adult and 1-3 second to fourth instars in alfalfa fields south of Rapid City, Pennington County; east of Piedmont, Meade County; and west of Spearfish, Lawrence County.

GRASSHOPPERS moderate, 12-15 per square yard, and damaging alfalfa north of Gann Valley, Buffalo County. Population 40 percent Melanoplus bivittatus (two-striped grasshopper), 20 percent M. differentialis (differential grasshopper) and 20 percent M. femurrubrum (red-legged grasshopper). These species also damaged alfalfa field south of Hot Springs, Fall River County, where counts per square yard were 20 at edge of field and 15 in field. Undetermined species numerous and damaging in portions of Perkins, Ziebach, Campbell, Lawrence and Pennington Counties. (Jones).

LIGHT TRAP COLLECTIONS

	Temperature °F	Precipitation (inches)	Type of trap (BL = Blacklight, I = Incandescent, MV = Mercury vapor, O = other)	Agrotis ipsilon (Black cutworm)	Carpocapsa pomonella (Codling moth)	Choristoneura auxiliaris (Spring cutworm)	Estigmene acrea (Salt-marsh caterpillar)	Feronia diffusa (Wheat head armyworm)	Feltia subterranea (Granulate cutworm)	Heliothis virescens (Tobacco budworm)	H. zea (Bollworm, corn earworm, tomato fruitworm)	Lonchocaris constantis (Alfalfa webworm)	Lonchocaris sinistralis (Garden webworm)	Lonchocaris sticticalis (Beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (Variegated cutworm)	Prodenia ornithogalli (Yellow-striped armyworm)	Protoparce quinquemaculata (Tomato hornworm)	Protoparce sexta (Tobacco hornworm)	Pseudaletia unipuncta (Armyworm)	Spodoptera ornata (Beet armyworm)	Spodoptera exigua (Fall armyworm)	Trichoplusia ni (Cabbage looper)	Crops
FLORIDA																								
Gainesville 9/14			BL						1		2									1		10		
ILLINOIS (County)																								
Champaign 9/10-15	55-78	1.76		15							42			4	32	4		5	15			12		
MARYLAND																								
Snow Hill 9/7-15			BL	14							717			142	73		spp. 22		27			35	2	
Centreville 9/8-14			BL	19							266			131	6			5	1			9		
MASSACHUSETTS																								
East Wareham 9/4-10											3													
East Wareham 9/11-17			2BL								4								3					
MISSISSIPPI																								
Stoneville 9/10-16	66-94	2.83	2BL	16		169		223	4	531						78		3	168	218	198	1100		
Rolling Fork 9/10-16	59-95	1.90	BL	32		3		231	8	202						82		19	296	189	104	3725		
Tunica 9/10-16	62-91	4.41	BL	24		2		54	3	463						35	6	40	26	30	26	394		
MISSOURI																								
Portageville 9/4-17			BL	6						136				113	1	34			9					
NEBRASKA																								
Bushnell 9/4-10				11	18										28				19					
Chappell 9/6-12				12	22					2					5	1			10		1			
North Platte 9/9-13				42	32				1	18					18	14			36		9			
Ogallala 9/7-13					3										2	1			1		2			
Scotts Bluff Expt. Sta. 8/28-9/3				16	8		1			1		spp. 38			23				25					
Scotts Bluff Expt. Sta. 9/4-10				5	9		1								8				1					
OHIO (Counties)																								
Licking 9/9-16			BL	3						33					3	16			7		3			
Wayne 9/11, 12, 14			BL	3			30			15					5	2			16					
Franklin 9/12, 13, 15			BL	3			20			58					7	33			5					
SOUTH CAROLINA																								
Charleston 9/13-19	67-90	0.42	BL	5		0		3	3	71					0	0	0	1	0		7	0		
TEXAS																								
Waco 9/11-17			BL	18		4		66		302					54	38			58	25	11	300		
WISCONSIN																								
Mazomanie 9/8-16			BL	0						7				3	3				2					
Madison 9/8-14	41-85		BL	18						4				8	21				24					
Middleton 9/8-14			BL	1						9				2	2				5					
De Forest 9/7-13			BL	2						7				4	6				15					
Arlington 9/7-13			BL							252				0					41					
Eden 9/7-13			BL							3				0					7					
Oakfield 9/7-13			BL							8				2					19					
Fox Lake 9/7-13			BL							10				63					55					
Hancock 9/9-14			BL	1						0				1	0				3					
Ripon 9/7-13			BL							0				21					29					
Rosendale 9/7-13			BL							0				20					35					

SOME OBSERVATIONS ON THE BIOLOGICAL CONTROL OF THE ALFALFA WEEVIL IN WESTERN MASSACHUSETTS (1)

F. R. Shaw (2) and M. C. Miller (3)

In connection with investigations of the biology and control of the alfalfa weevil (Hypera postica (Gyll.)), some surveys and investigations were conducted of the parasites of this pest.

Through the cooperation of C. C. Blickenstaff and J. L. Huggans, Grain and Forage Insects Research Branch, and M. H. Brunson, Insect Identification and Parasite Introduction Branch, ARS, ENT, USDA, several species of parasites of the alfalfa weevil have been received and distributed over the last three years. Subsequently, larvae have been collected from the release fields and usually other nearby fields (within a radius of 5 miles of the release point). These collections were forwarded to the appropriate cooperating agencies of the USDA where the degree of parasitism was determined.

In addition to the collections made at and near the release points, surveys for larval parasitism were also made in other areas of the State where feasible.

In May 1962, releases were made of 1,040 Bathyplectes curculionis (Thoms.), 980 Tetrastichus incertus (Ratz.) and 200 Dibrachoides druso (Walker) in Leverett, and 1,172 B. curculionis were released in Seekonk.

In 1963, larval collections were made at both release sites. Only B. curculionis was recovered and the extent of parasitism was low.

In 1964, approximately 5,000 alfalfa weevil larvae from the Leverett area were shipped to J. L. Huggans during the period May 20 to June 10. Parasitism ranged from zero to 21.6 percent. Only B. curculionis was reported as present.

In 1964, Itoplectis conquisitor (Say), Patasson luna (Girault) and some fungi were also found parasitizing the alfalfa weevil.

On May 24, 1965, a total of 400 larvae of the alfalfa weevil were collected from the Leverett release point and three additional fields within a radius of 5 miles. J. L. Huggans reported from zero to 44 percent parasitism by B. curculionis and zero to 50 percent parasitism by T. incertus. Similar collections made June 1 showed 2-55 percent parasitized by B. curculionis and 0-64 percent by T. incertus.

In view of the encouraging results, the studies of the biological control of the alfalfa weevil were expanded. Thus, there are positive identifications of T. incertus from 15 towns in Berkshire, Worcester and the three valley counties of Hampden, Hampshire and Franklin, with suspected recoveries from 5 or 6 additional towns in western Massachusetts. The overall degree of parasitism, as determined by these investigations, is approximately 64 percent. It was determined that as many as 90 percent of the alfalfa weevil larvae in some fields were parasitized by T. incertus.

The investigators expect to expand their investigations in 1966 in an effort to determine if T. incertus is statewide in distribution, if it parasitizes the larvae damaging first cuttings of alfalfa and if the alfalfa weevil population is appreciably lower than in 1965.

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1. Contribution 1375 from the Department of Entomology and Plant Pathology and of the Massachusetts Agricultural Experiment Station
2. Professor, Entomology and Bee Keeping
3. Research Assistant, Entomology and Plant Pathology

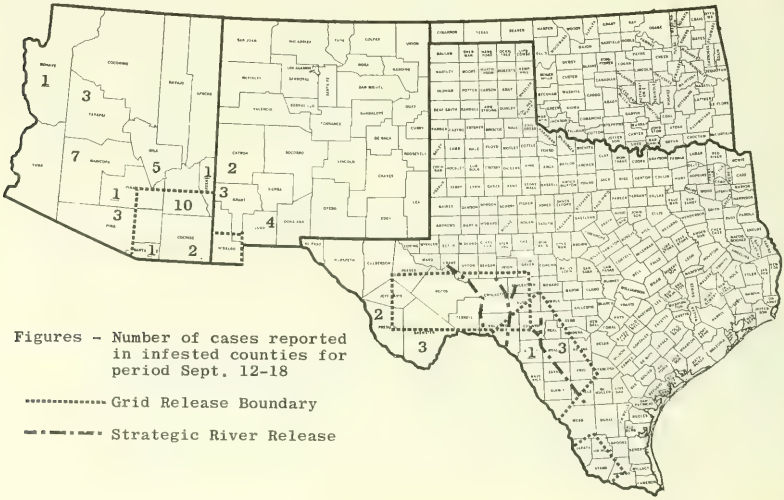
Reference: Shaw, F. R. and Ziener, W. H. 1964. A Survey of Parasites of the Alfalfa Weevil in Western Massachusetts. Coop. Econ. Ins. Rpt. 14(9):138.

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period September 12-18, a total of 52 cases was reported in the Southwestern Eradication Area as follows by State and county: TEXAS - Brewster and Uvalde 3 each, Presidio 2 and Kinney 1. NEW MEXICO - Luna 4, Grant 3 and Catron 2. ARIZONA - Graham 10, Maricopa 7, Gila 5, Pima and Yavapai 3 each, Cochise 2, and Greenlee, Mohave, Pinal and Santa Cruz 1 each. The Republic of Mexico reported 227 cases: Sonora 67, Durango 50, Territorio sur de Baja California 44, Chihuahua 29, San Luis Potosi 16, Coahuila 9, and Nuevo Leon, Tamaulipas and Veracruz 4 each. Sterile screw-worm flies released: Texas 17,362,250, New Mexico 5,660,000, Arizona 15,920,000, California 600,000, and Mexico 65,828,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	189	2972	151	5019	125.16	59.21
1964	1	106	45	4487	2.22	2.36
1965	52	715	60	3869	86.66	18.48
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	58	2170	18	1497	322.22	144.95
1965	197	3721	27	1729	729.62	215.21
Table 2A. Mexican portion of Barrier Zone only.						
1964	47	1963	2	682	2350.00	287.82
1965	157	3155	15	666	1046.66	473.72

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 October 1, 1965 Number 40

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

CORN EARWORM damaging sweet corn in several areas; infestations moderate to heavy. Also of some concern on soybeans and peanuts. FALL ARMYWORM damaging corn in several States. EUROPEAN CORN BORER appears heavier in southeastern Nebraska than in 1964. (p. 1135). SOUTHERN CORN ROOTWORM populations in Nebraska increased over those present in 1964. (pp. 1135, 1136). GRASSHOPPERS economic on several hundred thousand acres in Santa Cruz and Pima Counties, Arizona. CHINCH BUGS (Blissus spp.) damaging Bermuda grass in Florida and Texas. (p. 1136). ALFALFA CATERPILLAR causing moderate damage to alfalfa in Arizona, and adults reported heavy in New Mexico. (p. 1138).

CITRUS RED MITE infestations on Florida citrus lowest on record for September and near lowest recorded in 15 years of observation; and PURPLE SCALE at lowest level in 15 years of record. (pp. 1139, 1140). RED DATE SCALE heavy and causing severe yield reduction of dates in Arizona. EUROPEAN RED MITE bronzing grape foliage in Ohio. (p. 1140).

BOLLWORM continues of concern in some cotton areas. (pp. 1141, 1142).

HOUSE FLY moderate to heavy in areas of Oklahoma and more abundant in Moscow area of Idaho than observed in past 20 years. (p. 1145).

DETECTION

New State record reported was SPOTTED ALFALFA APHID (Therioaphis maculata) in Michigan. (p. 1137).

New county and parish records included: SPOTTED ALFALFA APHID in Calhoun, Branch, St. Joseph, Cass and Van Buren Counties, Michigan, (p. 1137); WALNUT HUSK FLY (Rhagoletis completa) in Yolo and Placer Counties, California, (p. 1139); ELM LEAF BEETLE (Galerucella xanthomelaena) in El Paso, Pecos and Bowie Counties, Texas, (p. 1144); JAPANESE BEETLE (Popillia japonica) in Jefferson County, Indiana, (p. 1147); and WHITE-FRINGED BEETLES (Graphognathus spp.) in Clay County, Alabama; St. Landry and Ouachita Parishes, Louisiana; and Marshall County, Mississippi, (p. 1147).

Corrected DETECTION for Volume 15, Number 39, page 1113.

New State records included: An ENCYRTID WASP (Trechnites insidiosus) in Oregon (p. 1127) and GIANT HORNET (Vespa crabro germana) in Indiana (p. 1128).

New county or parish records included: WESTERN CORN ROOTWORM (Diabrotica virgifera) in Hancock County, Illinois, (p. 1116), and in Meade County, South Dakota, (p. 1129); NORTHERN CORN ROOTWORM (Diabrotica longicornis) in Bennett, Jackson, Shannon, Fall River, Custer, Pennington and Lawrence Counties, South Dakota, (p. 1129); SPOTTED ALFALFA APHID (Therioaphis maculata) in Custer, Jackson, Lawrence, Meade, Pennington and Shannon Counties, South Dakota, (p. 1129); WALNUT HUSK FLY (Rhagoletis completa) in Butte County, California, (p. 1119); and a MOSQUITO (Psorophora horrida) in Jefferson Parish, Louisiana, (p. 1125).

CORRECTIONS and ADDITIONAL NOTES

See page 1148.

Continued on page 1134.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1150).

Sawfly Population Survey (in wheat-producing areas of Montana). (pp. 1151, 1152).

Reports in this issue are for week ending September 24 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 27

HIGHLIGHTS: (1) Continued cold, northern Plains. (2) Eastern heat wave broken. (3) Dry in extreme West, wet Central and East.

TEMPERATURE: Cold arctic air entered Montana again on Wednesday, September 22, and covered most of the Nation east of the Rockies by Friday. Freezing occurred in the upper Mississippi Valley, south to northern Kansas, and over much of the western interior. Numerous record low temperatures for so early in the season were reported. Omaha, Nebraska, had 31° on the 24th. The week averaged 12° to 15° cooler than normal in the upper Great Plains where this was the sixth consecutive cooler than normal week. Temperatures averaged 6° to 10° above normal in the Northeast where maximums were near 90° until late in the week. Augusta, Maine, had 92° on Wednesday.

PRECIPITATION: Precipitation was nearly all of the frontal type. A front extending from the Great Lakes to Texas during the first 3 days moved to the Atlantic coast by Friday and caused most of the week's precipitation. Totals exceeded 0.75 inch over most of the midcontinent and Appalachian areas. In the middle Mississippi Valley, many streams overflowed after 6 days of rain which ended Wednesday. The worst flooding was in Iowa, Missouri, Arkansas, and Texas. More than 8 inches fell near Austin, Texas. Beneficial rains in the northeastern drought area generally ranged from 0.5 to 1.5 inches. More snow fell in the central and northern Rockies. Some light snows were reported through the northern Plains to Upper Michigan. Precipitation west of the Divide was insignificant. It was rather stormy in the middle Mississippi Valley early in the week. Tornadoes were reported on the 20th near Wichita, Kansas; Strong City, Oklahoma; Bethany and Marshall, Missouri; and St. Joseph and Elkhart, Indiana. (Summary supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN EARWORM (Heliothis zea) - OREGON - Damage to sweet corn heavy in Douglas, Josephine and Jackson Counties. Infestations absent or only light in corn in mid-Willamette Valley. (Larson). ARIZONA - Moderate to heavy populations continue damaging to corn in Graham County. (Ariz. Coop. Sur.). NEW MEXICO - Reported light to heavy on sweet corn in commercial plantings in Bernalillo County. (Heninger). OKLAHOMA - Reported heavy in irrigated corn grown for silage in Jackson County. Averaged 6 per 100 terminals in Marshall County peanuts; light in Payne County alfalfa. (Okla. Coop. Sur.). KANSAS - Infesting up to 95 percent of late corn in Riley, Geary, Wabaunsee and Shawnee Counties. (Simpson). NEBRASKA - Larval populations light in southeastern section; mainly confined to late corn. (Rhine). MICHIGAN - Adult numbers in blacklight traps higher for week ending September 20 than earlier; sizeable sampling taken evening of September 16. (Newman). DELAWARE - Adults remain abundant in blacklight trap collections in Sussex County; average over 100 per night. (Burbutis). MARYLAND - Larvae caused light to moderate pod injury to soybeans on lower Eastern Shore. (U. Md., Ent. Dept.). VIRGINIA - Only occasional damaged pod noted in 3 fields of soybeans in Pittsylvania County. (Dominick, Sept. 16). TENNESSEE - Some pod feeding observed on soybeans, but no larvae seen. (Johnson). ALABAMA - Heavy infestation of this species and Anticarsia gemmatalis (velvetbean caterpillar) controlled by insecticide application in Greene County. (Langely, Pike et al.). Infesting grain sorghum in Perry County, with serious damage noted to grain heads in all stages of development. Controls required. (Bates, Ledbetter).

FALL ARMYWORM (Spodoptera frugiperda) - ALABAMA - Infesting grain sorghum in Perry County; seriously damaging grain heads in all stages of development. Controls necessary. (Bates, Ledbetter). OKLAHOMA - Found in 15 percent of ears in irrigated corn in Jackson County. Light in Payne County alfalfa. (Okla. Coop. Sur.). KANSAS - Considerable number of larvae (0-10 per 25 plants) noted in late corn in northeast district; causing some breakage. (Simpson). Damaging fall-seeded rye in Pawnee County. Replanting necessary. (Brooks). OHIO - Larvae infesting some late sweet corn near Marietta, Washington County. Particularly heavy, with up to 4-5 larvae per ear. Late field corn in area also affected. Severe feeding evident on leaves and stalks. Many larvae nearing pupation. Tassels failed to develop properly due to feeding damage on much of late corn in one field. (Racer). Infestation involving 5 acres of field corn observed in Wayne County. (Barry, Rings). MARYLAND - Larvae caused heavy injury to corn planting near Clear Spring, Washington County. (U. Md., Ent. Dept.). DELAWARE - Larvae very abundant in late-planted corn in one area of Sussex County; causing very heavy injury. (Burbutis).

SORGHUM WEBWORM (Celama sorghiella) - ALABAMA - Infesting grain sorghum in Perry County; seriously damaged grain heads in all stages of development. Controls necessary. (Bates, Ledbetter).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - OKLAHOMA - Reported infesting nearly all stalks of irrigated corn in Jackson County. (Okla. Coop. Sur.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - NEBRASKA - Infestations appear higher in corn in southeastern counties than in 1964. (Rhine). MICHIGAN - Percent infestation by first and second-brood larvae in 18 fields of corn sampled September 21 by county as follows: Monroe, 28 in 5 fields; Livingston, 28 in 3 fields; Saginaw, 6 in 5 fields; Tuscola, none of 5 fields infested. Larvae collected in Monroe and Livingston Counties predominantly second and third stages. (Newman). DELAWARE - Adult numbers in blacklight traps in Sussex County reduced over those reported in CEIR 15(39):1116; averaged 19 per night. (Burbutis).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Annual adult survey shows increase of D. undecimpunctata howardi (southern corn rootworm) populations over those of 1964 in central and southeastern areas. Populations predominantly D. longicornis (northern corn rootworm) in northeast section and mainly D. virgifera (western corn rootworm) throughout remainder of State. (Rhine). OHIO - Mixed infestation

of D. longicornis and D. undecimpunctata howardi reported in field of clover in Franklin County. D. longicornis adults numbered approximately 5 per sweep and D. undecimpunctata howardi ranged 2-3 per sweep. (Smith).

BUMBLE FLOWER BEETLE (Euphoria inda) - WYOMING - Observed and collected from corn at Casper, Natrona County. (Ralston, Fronk). Also observed on elms at Gillette, Campbell County. (Lynch, Fronk).

WIREWORMS - MARYLAND - Unspecified species caused severe lodging of corn near Manchester, Carroll County. (U. Md. Ent. Dept.).

CHINCH BUG (Blissus leucopterus) - OKLAHOMA - Light to moderate in grain sorghum checked in Payne County. (Okla. Coop. Sur.).

BEAN APHID (Aphis fabae) - OREGON - Probably this species, heavy in fields of sweet corn in Lane County. Apparently migrated from bean fields that were cut after harvest operations. (D. Hatch).

GRASSHOPPERS - NEVADA - Heavy numbers of grasshoppers, mostly Melanoplus bivittatus (two-striped grasshopper), killed by fungus and flesh flies (Sarcophagidae) in Lamoille area, Elko County. Tops of leafy spurge plants covered with fungus-killed grasshoppers. (Earnist, Maloney). ARIZONA - Survey of summer-hatching species indicates noneconomic populations in Graham and Cochise Counties, except for economic numbers in extreme southwestern Cochise County. Economic populations present in Santa Cruz and Pima Counties. Estimates of 600,000 acres infested in Santa Cruz County and 60,000 acres infested in Pima County. Melanoplus sanguinipes (migratory grasshopper) infesting alfalfa on Yuma Mesa in Yuma County; ranged 1-3 per square yard. (Ariz. Coop. Sur.). NEW MEXICO - Grasshoppers heavy in alfalfa on edges of fields in Alameda area, Bernalillo County. (Heninger). MICHIGAN - Grasshopper adults and nymphs relatively low in areas of Mecosta, Osceola and Missaukee Counties recently surveyed; exception was counts as high as 15 per square yard in isolated field. Averaged 2 per square yard in 10 fields surveyed in these counties. Melanoplus femurrubrum (red-legged grasshopper) dominant species. (Janes, Lindy). No grasshoppers found in 6 fields of alfalfa checked in Tuscola County September 21. (Dowdy).

MORMON CRICKET (Anabrus simplex) - ARIZONA - Infestation on 8,500 acres found in Pleasant Valley area on north rim of Grand Canyon in Kaibab National Forest. No females observed, indicating earlier migration for egg laying purposes. (Ariz. Coop. Sur.).

SOD WEBWORMS - IDAHO - Adults of Crambus mutabilis very abundant in lawn in Caldwell, Canyon County. (Homan, Sept. 17). OHIO - Crambus spp. reportedly serious in lawns in section of Marietta, Washington County. (Gehres). FLORIDA - Larvae of Pachyzancla phaeopteralis severely damaged St. Augustine grass at Ocala, Marion County. (Roberson, Sept. 14).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Larvae heavy on leaves of Chenopodium album in North Modesto, Stanislaus County. (Cal. Coop. Rpt.).

CHINCH BUGS (Blissus spp.) - FLORIDA - B. insularis damaging St. Augustine grass pastures at Belle Glade, Palm Beach County; severe on approximately 80 acres, with many spots of 50-100 feet in diameter completely killed. More new St. Augustine grass pastures showing marginal damage; nymphs and adults present. Additional acreage showing damage estimated at approximately 300 acres. Control being obtained by use of appropriate insecticide. (Genung, Sept. 21). TEXAS - Heavy infestations of Blissus sp. reported in St. Augustine grass lawns in Travis, Harris and Brazos Counties. (Meisch).

A SPITTLEBUG (Prosapia bicincta) - ALABAMA - Adults emerging in large numbers from Coastal Bermuda grass and other grasses along highways in Lee, Macon, Montgomery and other nearby counties. (Barwood).

A THRIPS (Chirothrips sp.) - ARIZONA - Heavy numbers appearing in Bermuda grass seed fields in Gila Valley of Yuma County. (Ariz. Coop. Sur.).

A SNAIL (Vallonia pulchella) - OREGON - Reported heavy and damaging lawns in Multnomah and Lane Counties. (Larson).

PEA APHID (Acyrthosiphon pisum) - OHIO - Numbers very low on fourth-growth alfalfa near South Charleston, Clark County. Counts indicate less than 1 per sweep, corresponding with buildup of predator populations. Elsewhere, A. pisum counts varied depending on time of third cutting. Above mentioned alfalfa cut August 14. (Holdsworth). Evidence of great variation in numbers observed in alfalfa in central and southeastern sections. Populations negligible in fields in Fairfield, Tuscarawas and Carroll Counties; counts ranged from less than 1 to 3 per sweep; however, average of 44 per sweep taken in one Monroe County field. Syrphid fly larvae only predators of consequence in this field; averaged 1 and 2 per sweep. (Rose). MICHIGAN - Adult and nymphal populations in alfalfa vary among fields; relatively low numbers prevail. In 6 fields in Tuscola County, highest and lowest counts per 10 sweeps in any field on September 21 were 150 and 20 respectively. Few fields checked on same date in Monroe and Livingston Counties showed high counts. Lady beetles and damsel bugs probably kept numbers low. (Dowdy). ILLINOIS - Varied 25.6-35.2 (average 31.5) per sweep in clover and alfalfa in Champaign County. (Ill. Ins. Rpt.). WISCONSIN - Populations increasing in alfalfa; probably due to cool, wet weather. Parasites and predators scarce in most fields. (Wis. Ins. Sur.). NEW MEXICO - Light to medium in alfalfa in Dona Ana and Bernalillo Counties. (Heninger, Mathews).

SPOTTED ALFALFA APHID (Therioaphis maculata) - MICHIGAN - Specimens of mature apterae collected in field of alfalfa in Shiawassee County on September 7 determined as this species by L. M. Russell. This constitutes a new State record. Adults and nymphs collected September 14 in Calhoun, Branch, St. Joseph, Cass and Van Buren Counties also determined this species and are new county records. (Connin, Bath). See CEIR 15(39):1117 for additional information. (PPC). None collected in 6 fields of alfalfa checked in Tuscola County September 21. (Dowdy). WISCONSIN - Populations extremely low; average less than 1 per 50 sweeps in fields where counts fairly high one month ago. (Wis. Ins. Sur.). NEW MEXICO - Light infestations found in alfalfa in Dona Ana and Bernalillo Counties. (Heninger, Mathews).

YELLOW CLOVER APHID (Therioaphis trifolii) - ILLINOIS - Averaged 160 per 100 sweeps in field of red clover in Champaign County. (Ill. Ins. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - MICHIGAN - Adults in alfalfa averaged 18 per 10 sweeps in 6 fields checked in Tuscola County September 21. (Dowdy). WISCONSIN - Adults and nymphs still common in most alfalfa. Appearing darker in color than previously noted. (Wis. Ins. Sur.). ILLINOIS - Adults varied 20-80 (average 40) and nymphs 0-10 (average 3.3) per 100 sweeps in clover and alfalfa in Champaign County. (Ill. Ins. Rpt.).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - MICHIGAN - Adults averaged 4 and nymphs 7 per 10 sweeps in 6 fields of alfalfa checked in Tuscola County September 21. (Dowdy). WISCONSIN - Adults and nymphs continue common in most alfalfa; taking on dark appearance. (Wis. Ins. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - ILLINOIS - Adults ranged 20-120 (average 80) and nymphs 0-40 (average 13) per 100 sweeps in alfalfa and clover in Champaign County. (Ill. Ins. Rpt.). MICHIGAN - Adults averaged 5.6 and nymphs 2.4 per 10 sweeps in 6 fields of alfalfa checked in Tuscola County September 21. (Dowdy). VIRGINIA - Nymphs and adults heavy in 2 fields of alfalfa in Carroll County; averaged 25 per 10 sweeps. (Isakson).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - TEXAS - Damaged several fields of soybeans in Bowie County. (Lynch). NEW MEXICO - Counts of 10-15 per 25 sweeps reported in alfalfa in Dona Ana County. (Mathews).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Averaged 6.3 adults per 10 sweeps in alfalfa in 6 Tuscola County fields checked. (Dowdy).

STINK BUGS - TENNESSEE - Abundant in most fields of soybeans observed. Most beans far enough advanced that little damage will occur. (Johnson). NORTH CAROLINA - Several species noted in 7 fields of soybeans in Wilson and Edgecombe Counties; averaged 7.5 adults and 11 nymphs per 50 feet of row. In 9 fields in Pitt and Craven Counties, adults averaged 4 and nymphs 3 per 50 feet of row. (Mount).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Larvae ranged 20-30 per 25 sweeps in alfalfa in Dona Ana County. Adults reported heavy in some Bernalillo County fields. (Mathews, Heninger). ARIZONA - Larvae again increasing in alfalfa in Maricopa and Pinal Counties; averaged 65 per 100 sweeps. Damage appears moderate. (Ariz. Coop. Sur.).

GREEN CLOVERWORM (Plathypena scabra) - VIRGINIA - Small numbers found in 3 fields of soybeans checked in Pittsylvania County September 16. (Dominick).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Full-grown larvae well controlled by virus disease in 2 fields of soybeans in Covington County. Larvae died and deteriorated while tightly attached to plant stems. (Langely, Pike et al.).

CUTWORMS - VIRGINIA - Severely damaged field of alfalfa in Botetourt County; cut off plants at ground level. (Isakson, Leonard, Sept. 18).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Averaged 33 per 100 terminals in peanuts checked in Marshall County. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - UTAH - Growers in Duchesne County estimated approximately 25-percent loss of first crop alfalfa, plus damage to and much delay of regrowth of second crop. (Smith, Knowlton). OHIO - After being scarce during August and early September, adults apparently becoming more active during daylight hours; previous activity primarily at night. Averaged 1 per sweep in field of alfalfa near Port Washington, Tuscarawas County, and ranged 2-6 per 10 sweeps in fields in Carroll and Monroe Counties. (Rose). VIRGINIA - Larvae averaged 8 per 20 sweeps in field of alfalfa in Carroll County. No larvae or adults encountered in fields checked in Bedford, Amherst, Nelson and Buckingham Counties. (Isakson).

CLOVER LEAF WEEVIL (Hypera punctata) - ILLINOIS - Adults ranged 0-40 (average 13.3) in clover and alfalfa in Champaign County. (Ill. Ins. Rpt.).

LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris) - ILLINOIS - Averaged 13 per 100 sweeps in field of red clover in Champaign County. (Ill. Ins. Rpt.).

BEAN LEAF BEETLE (Cerotoma trifurcata) - ILLINOIS - Adults varied 0-80 (average 46.7) per 100 sweeps in clover and alfalfa in Champaign County. (Ill. Ins. Rpt.). VIRGINIA - Caused light to medium damage to soybean foliage in 3 Pittsylvania County fields. (Dominick, Sept. 16).

MEXICAN BEAN BEETLE (Epilachna varivestis) - VIRGINIA - Caused light to medium damage to foliage of soybeans in 3 fields checked in Pittsylvania County. (Dominick, Sept. 16). ALABAMA - Feeding signs plentiful on kudzu throughout much of central section; however, damage not serious. (Barwood et al.).

BLISTER BEETLES (Epicauta spp.) - OKLAHOMA - Infestations moderate in alfalfa in Mayes County; light in Payne County. (Okla. Coop. Sur.).

FRUIT INSECTS

SPIDER MITES (Tetranychus spp.) - UTAH - Discoloring apple foliage in home orchards near Logan, Cache County. (Knowlton). OREGON - Overwintering forms of T. telarius (two-spotted spider mite) beginning to hibernate in Jackson County. (Berry).

LEAFHOPPERS - CALIFORNIA - Adults of Empoasca abrupta (western potato leafhopper) and Draeculacephala minerva medium on peach trees in Riverbank, Stanislaus County. (Cal. Coop. Rpt.).

PEACH TWIG BORER (Anarsia lineatella) - OREGON - Larvae boring into peach twig crotches and forming hibernaculae in Jackson County. (Berry).

APPLE RED BUG (Lygidea mendax) - OHIO - Probably this species, caused prominent catfacing on all apple varieties except Grimes Golden in orchard near Worthington, Franklin County. (Smith).

FRUIT FLIES (Rhagoletis spp.) - CALIFORNIA - R. completa (walnut husk fly) medium in walnuts in Knights Landing, Yolo County, and Auburn, Placer County. Up to 100 percent infestation of dooryard walnuts in Sacramento, Sacramento County. Yolo and Placer Counties new county records. (Cal. Coop. Rpt.). UTAH - R. completa found in walnuts at Tooele, Tooele County. (Knowlton). MICHIGAN - Species reported in CEIR 15(36):1036 as Rhagoletis sp. determined as R. suavis by G. C. Steyskal. Limited adult activity continued in Carpathian walnut planting in Gratiot County. (Newman, Sommers).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Eggs hatching in nuts in Creek and Okfuskee Counties. Adult emergence continues heavy in Payne County. Reported moderate on pecans in Choctaw and Bryan Counties and light in Mayes County. (Okla. Coop. Sur.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Continues to damage pecans in Creek and Okfuskee Counties. (Okla. Coop. Sur.).

WALNUT CATERPILLAR (Datana integerrima) - TEXAS - Damaging pecan trees in Hamilton County. (Gordon).

SPITTLEBUGS - SOUTH CAROLINA - Majority of pecan trees infested in Florence County. (Nettles et al., Sept. 22).

ORANGE-DOG (Papilio cresphontes) - TEXAS - Damaging grapefruit trees in Runnels County. (Parker).

Citrus Insect Situation in Florida - Mid-September - CITRUS RUST MITE (Phyllocoptruta oleivora) infested leaves in 45 percent of groves (norm 56 percent); 28 percent economic (norm 36 percent); and infested fruit in 53 percent of groves (norm 67 percent); 35 percent economic (norm 45 percent). Although statewide population below average and in moderate range there are wide differences among districts and all areas have at least 8 percent of groves with heavy infestations. Increase underway which will continue through October. Highest districts south, west and central. CITRUS RED MITE (Panonychus citri) infested 15 percent of groves (norm 38 percent); 3 percent economic (norm 18 percent). Decreased to very low level; the lowest on record for September and near the lowest recorded in 15 years of observation. All districts expected to remain in low range. TEXAS CITRUS MITE (Eutetranychus banksi) infested 15 percent of groves (norm 23 percent); 2 percent economic (norm 8 percent). Currently very low in all districts; gradual increase expected. BLACK SCALE (Saissetia oleae) infested 46 percent of groves (norm 34 percent); 25 percent economic (norm 14 percent). Decreasing but still above average for September. A few heavy infestations present in highest districts; central, east and north. GLOVER SCALE (Lepidosaphes gloverii) infested 41 percent of groves; 7 percent economic. Above average but all districts are low. Increase expected. PURPLE SCALE (Lepidosaphes beckii)

infested 35 percent of groves; none economic. Currently at lowest level in 15 years of record. YELLOW SCALE (Aonidiella citrina) infested 37 percent of groves; 9 percent economic. Above average; all districts low; little change expected. CHAFF SCALE (Parlatoria pergandii) infested 28 percent of groves; 2 percent economic. Below average; increase expected; all districts low. WHITEFLY adults infest 74 percent of groves, 11 percent moderate to heavy. Larvae infest 55 percent of groves, 5 percent moderate to heavy. Larvae below average but expected to reach moderate level about October 1. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred)).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Chemical Control Zone - Surveys in States of Sonora, Baja California and Nuevo Leon negative; 1 very light infestation found in Tamaulipas. Over 3,400 trees sprayed on 3 properties in Nuevo Leon and 2 applications made on 536 trees on 1 property at Hermosillo, Sonora. Biological Control Zone - Heavy infestations found in States of Michoacan, Sonora and Tabasco. Majority of trees in States of Nayarit, Aguascalientes, Guanajuato, Puebla and Jalisco and the Territory of Baja California uninfested or lightly infested. About 3 percent of trees inspected in southern Tamaulipas State lightly infested. Parasite population in Yucatan and Campeche States sufficient to provide for release on 58 properties requiring controls. (PPC Mex. Reg., Aug. Rpt.). TEXAS - Surveys negative in Mission and other locations in Hidalgo and Zavala Counties. (PPC So. Reg., Aug. Rpt.).

A FRUIT FLY (Myoleja limata) - FLORIDA - Adults of this native species light on kumquat at Orlando, Orange County. (Castor, Sept. 7).

RED DATE SCALE (Phoenicoccus marlatti) - ARIZONA - Very heavy in date grove in Yuma County; causing severe reduction in yield. (Ariz. Coop. Sur.).

EUROPEAN RED MITE (Panonychus ulmi) - OHIO - Overwintering eggs common on Concord grapes in eastern section following rapid buildup in early September. Heavier populations caused some bronzing of grape foliage. (Still).

GRAPE BERRY MOTH (Paralobesia viteana) - OHIO - Second-generation larvae causing heavy damage to poorly sprayed and unsprayed vineyards in eastern section. (Still).

A LEAF ROLLER MOTH (Platynota stultana) - CALIFORNIA - Larvae damaging rasins on drying trays in vineyards in Fresno County; this first time this has been noticed. (Cal. Coop. Rpt.).

VINEGAR FLIES (Drosophilia spp.) - MICHIGAN - Adults likely to cause problems on grapes and other susceptible crops in southwestern section if warm weather continues. (Wooley).

A VESPID WASP (Vespula maculifrons) - OHIO - Feeding on grapes and apples in Plain City, Madison County. (Gibson).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) - DELAWARE - Adults increased greatly in light trap collections in Sussex County; averaged over 30 per night. (Burbutis). NORTH CAROLINA - Larvae still active on cabbage and adults still numerous in light traps in Watauga County. (Wray). ARIZONA - Larvae light on lettuce in Peoria area, Maricopa County; small numbers reported in Dome Valley area, Yuma County. (Ariz. Coop. Sur.).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW MEXICO - Caused considerable damage to heads of cabbage and leaves of cauliflower. (Heninger). ALABAMA - Larvae medium to heavy on collards in home gardens in Lee and Macon Counties. (Barwood).

TOMATO FRUITWORM (Heliothis zea) - DELAWARE - Larvae abundant in some bean fields in Kent and Sussex Counties. (Burbutis).

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - Larvae rather abundant in some snap bean plants and pods and present in some peppers in Sussex County. (Burbutis). ALABAMA - Occasional larva noted in maturing pimento peppers in Marshall and De Kalb Counties. (Davis).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - TEXAS - Heavy locally and damaging southern peas in Young County. (MacCarroll).

POTATO TUBERWORM (Gnorimoschema operculella) - UTAH - Extremely scarce in potatoes in Beaver, Iron and Washington Counties. (Knowlton, Sjoblom).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Heavy and damaging lettuce in Dome Valley area, Yuma County. (Ariz. Coop. Sur.).

FLEA BEETLES - ARIZONA - Migrating populations of Chaetocnema ectypa (desert corn flea beetle) and Systena sp. damaging young lettuce in Yuma County and vegetables in some areas of Maricopa County. (Ariz. Coop. Sur.). PENNSYLVANIA - Systena blanda (pale-striped flea beetle) damaged garden in Greene County. (Udine).

CUCUMBER BEETLES - OKLAHOMA - Diabrotica undecimpunctata howardi (spotted cucumber beetle) and Acalymma vittata (striped cucumber beetle) heavy on commercial cucumbers in Jackson County. Some controls applied. (Okla. Coop. Sur.).

JAPANESE BEETLE (Popillia japonica) - NORTH CAROLINA - Adults feeding on late beans and weeds in home garden in Watauga County. (Wray).

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - RHODE ISLAND - Adults common in vicinity of fields and around houses near fields in West Kingston, Washington County. (Mathewson).

APHIDS - ALABAMA - Hyadaphis pseudobrassicae light to heavy on fall turnips in home gardens in central and northern sections. Some controls necessary. (Amason et al.). OHIO - Myzus persicae (green peach aphid) populations continue high on potato plants near Celeryville, Huron County, although controls used. (Sleesman). OKLAHOMA - Several species heavy in home gardens in Choctaw and McCurtain Counties. (Okla. Coop. Sur.). NEW MEXICO - Brevicoryne brassicae (cabbage aphid) light to medium on cabbage and cauliflower in Bernalillo County. Aphis gossypii (melon aphid) light to heavy on cantaloups and honeydew melons in commercial plantings in southern Bernalillo County. (Heninger).

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) - IDAHO - Heavy on strawberry plants in home garden at Nampa, Canyon County. (Homan).

POTATO LEAFHOPPER (Empoasca fabae) - CALIFORNIA - Medium in blackeyed peas in Friant, Fresno County. (Cal. Coop. Rpt.).

CABBAGE MAGGOT (Hylemya brassicae) - OHIO - Larvae severe inside heads and roots of some Chinese cabbage near Orient, Pickaway County. (Holdsworth).

FIELD CRICKETS (Gryllus spp.) - ARIZONA - Populations continue high in vegetable crops in Yuma County. Controls have been necessary. (Ariz. Coop. Sur.).

SPIDER MITES (Tetranychus spp.) - OKLAHOMA - Continue to damage tomatoes in home gardens in Payne County. (Okla. Coop. Sur.).

COTTON INSECTS

BOLLWORM (Heliothis zea) - OKLAHOMA - Infestations range 25-32 percent on Jackson County cotton. Reported light in Beckham and Marshall Counties. (Okla. Coop. Sur.). NEW MEXICO - Mostly light infestations reported in cotton in Dona Ana,

Luna and Hidalgo Counties; heavier populations found in some instances. (Mathews, Hare). ARIZONA - Damage to top crop evident in scattered areas of Graham, Yuma, Maricopa, Pinal and Pima Counties. Controls necessary and considered generally effective. (Ariz. Coop. Sur.). CALIFORNIA - More abundant on cotton in northern part of valley in Imperial County, although egg deposition apparently increased in southern portion. Little if any controls required in many fields this season, although some outbreaks did occur. (Campbell, Sept. 16). Generally abundant in cotton in Kings County where certain insecticides used earlier. (McCutcheon, Sept. 17). Dominant situation in San Joaquin Valley in many fields of cotton, with severe infestations evident in portions of Tulare, Fresno, Kings and Kern Counties. Larvae evident throughout valley; populations low in many instances but larvae range 80-90 per 100 plants in some fields. Moth activity continues at light traps in Shafter; presumably, infestations may continue to develop for another 2-3 weeks. (Leigh, Sept. 17).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Moths and eggs numerous in Jackson County cotton but larvae seldom found. Most larvae being killed by virus. (Okla. Coop. Sur.). CALIFORNIA - Evident in cotton throughout San Joaquin Valley with considerable ragging of leaves evident in many fields; however, economic situations apparently rare. (Campbell, Sept. 16).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Scattered infestations found in cotton in Yuma, Maricopa, Pinal, Pima and Graham Counties. Damage light in most instances. (Ariz. Coop. Sur.). CALIFORNIA - Evident in cotton in Tulare Lake area of Tulare County, but infestations generally light. (Leigh, Sept. 17).

PINK BOLLWORM (Pectinophora gossypiella) - OKLAHOMA - Lint cleaner inspections negative in Beckham, Custer, Harmon, Jackson, Payne, McClain, Garvin and Coal Counties. One of two inspections in Muskogee County and 1 of 2 in Tillman County positive. Gin trash inspections positive in Harmon, Tillman and Logan Counties. All averaged less than 1 larva per bushel of gin trash. (Okla. Coop. Sur.). ARIZONA - Infestations being found in cotton in many areas of Maricopa County. (Ariz. Coop. Sur.).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Populations declined in Yuma area cotton; however, new infestations continue to be found. (Ariz. Coop. Sur.). CALIFORNIA - Increased populations in some Imperial Valley fields required controls; however, populations and damage minimal in most instances. (Campbell, Sept. 16).

ARCTIID MOTHS - OKLAHOMA - Larvae of several species averaged 1 per 5 row feet in cotton checked in Jackson County. (Okla. Coop. Sur.).

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Adults, larvae and pupae observed in large numbers in top bolls and squares in fields of cotton checked in Madison, Limestone, Lawrence and Cullman Counties. (McQueen). OKLAHOMA - Infestation averaged 41 percent in untreated cotton in Marshall County; ranged 40-80 percent in Jackson County and 2-10 percent in Beckham County. Reported moderate in Choctaw County cotton. (Okla. Coop. Sur.). TEXAS - Light to heavy, widespread infestations present in cotton in Cottle County. (Meisch).

COTTON APHID (Aphis gossypii) - NEW MEXICO - Heavy in some fields of cotton in Dona Ana County, but generally reported as light. (Mathews). CALIFORNIA - Evident in most cotton throughout San Joaquin Valley; however, activity of beneficial insects appears to have controlled some severe outbreaks. A. gossypii should be watched for buildups where bolls open and honeydew may be deposited on fibers. (Leigh, Sept. 17). Still present in many fields of cotton in Kings County; serious infestations not yet evident. Infested fields should be checked frequently to detect excessive honeydew on lint. Lacewings abundant in most fields where aphids present. (McCutcheon, Sept. 17).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Population variable in Imperial County cotton; numbers economic in some fields, but populations generally low. (Campbell, Sept. 16). Although infestations still present in some San Joaquin Valley fields, value of controls doubtful at this time. (Leigh, Sept. 17).

CRICKETS - CALIFORNIA - Continue abundant in Imperial County cotton, although decreasing. Plants in some fields being "topped" as result of feeding by these pests. (Campbell, Sept. 16).

SPIDER MITES (Tetranychus spp.) - ALABAMA - Defoliation of cotton plants quite widespread throughout northern part of State; infestations range light to medium. Infestations heavy in some fields and in isolated areas of most fields. Damage uncertain as cotton maturing and harvest well underway in much of the area. (McQueen). CALIFORNIA - Abundant in many fields of cotton in San Joaquin Valley with reddening of leaves and some webbing of upper portions of plants evident. Not causing economic losses at present. Predators abundant in mite colonies. (Leigh, Sept. 17).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - Total of 195 spots located by aerial detection made over epidemic area during August in Hardin, Harris, Jasper, Liberty, Montgomery, Newton, Orange, Polk and Tyler Counties. Some activity found in trees previously attacked by Ips spp. Damage decreasing on Big Thicket Ranger District in San Jacinto County. Control applied. (Texas For. Pest Comm., Aug. Rpt., Williamson).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - TEXAS - Control applied on Davy Crockett National Forest to prevent population buildup. Damage constant on scattered trees in logging and site-preparation areas. Mortality reported from Rusk County where no control yet applied. (Texas For. Pest Comm., Aug. Rpt., Williamson).

PONDEROSA-PINE CONE BEETLE (Conophthorus ponderosae) - CALIFORNIA - Damage to ponderosa pine seed cones heavy in Lava seed production area and Round Mountain area in Modoc National Forest. (K. Smith, USFS).

WHITE GRUBS (Phyllophaga spp.) - WISCONSIN - Caused 70-80 percent loss in untreated Christmas tree plantation in Dane County. (Wis. Ins. Sur.)

POPLAR-AND-WILLOW BORER (Sternochetus lapathi) - IDAHO - Severely infesting globe willows locally in Caldwell. (Homan, Sept. 17).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - UTAH - Generally moderate, but very severe on few blue spruce trees at Logan, Cache County. (Knowlton). VIRGINIA - Attacking pines locally in Appomattox County. (Isakson, Smith).

PINE SAWFLIES (Neodiprion spp.) - TEXAS - Partial defoliation of loblolly and shortleaf pines noted in Bastrop, Polk, Rusk and Trinity Counties. Sawtimber-sized trees attacked. Damage this season resulted in widespread light defoliation; however, these areas to be kept under surveillance. (Texas For. Pest Comm., Aug. Rpt., Williamson).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Medium to heavy on poplars, pecans and cottonwoods in Dona Ana and Sierra Counties. (Mathews). OKLAHOMA - Moderate to heavy on several species of trees in northeast and east central areas. (Okla. Coop. Sur.). KANSAS - Numerous in southeast district although not as heavy as in northeast September 17. Numbers in northeast on decline. (Simpson). ARKANSAS - Larvae still active in many nests in Ozark Mountains. Many specimens of Elachertus hyphantriae (a eulophid wasp), an important parasite of this species, collected. (Boyer).

WALKINGSTICK (Diapheromera femorata) - ARKANSAS - None found in areas heavily infested past few years. Only an occasional specimen found this season. (Boyer).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Heavy on elms in Adair, Hughes and Mayes Counties. Larvae of a partial fourth generation hatched in Payne County. (Okla. Coop. Sur.). TEXAS - Heavy and widespread on elms in State. Reported from El Paso, Pecos and Bowie Counties as well as most counties in northwest area. These are new county records. (Texas Coop. Rpt.).

A SPHINGID MOTH (Pachysphinx modesta) - CALIFORNIA - Heavy larval infestations on ash trees in Victorville, San Bernardino County. (Cal. Coop. Rpt.).

LEAFHOPPERS - OKLAHOMA - Moderate to heavy on sycamores in Payne County and on elms in Noble County. (Okla. Coop. Sur.). CALIFORNIA - Adults of Opsius stactogalus heavy on tamarisk trees in Yuba City, Sutter County. (Cal. Coop. Rpt.).

APHIDS - UTAH - Pterocomma sp. very numerous on black willow twigs at Ogden, Weber County. (Knowlton). WISCONSIN - Cinara spp. numerous on various pine

species in a Dane County Christmas tree plantation. (Wis. Ins. Sur.). VIRGINIA - Longistigma caryae (giant bark aphid) heavy on pin oak in Berryville, Clarke County. (Isakson, Gerken).

BAGWORM (Thyridopteryx ephemeraeformis) - OKLAHOMA - Moderate on "cedars" in local areas of Beckham County. Males emerged in Payne County. (Okla. Coop. Sur.). ALABAMA - Pupation of single generation occurring over State; mating underway. (McQueen).

MIMOSA WEBWORM (Homadaula albizziae) - MARYLAND - Heavy on mimosa trees at several locations in Prince Georges County. (U. Md., Ent. Dept.).

A TORTRICID MOTH (Choristoneura houstonana) - KANSAS - Overwintering in hibernaculae as fourth or fifth instars at Larned. (Simpson).

LACE BUGS - CALIFORNIA - Adults of Leptoypha minor heavy on Arizona ash trees in Escalon, San Joaquin County. (Cal. Coop. Rpt.). TEXAS - Undetermined species moderate to heavy on pyracantha in Denton County (Turney) and on sycamore in Brazos County (Meisch). OKLAHOMA - Corythucha ciliata (sycamore lace bug) heavy on sycamores in Payne County. (Okla. Coop. Sur.).

COCCIDS - FLORIDA - Icerya purchasi (cottony-cushion scale) caused moderate to severe damage to Pittosporum sp. in nursery at Sharpes, Brevard County, September 17. (Levan). Gymnaspis aechmeae moderately damaging leaves of Billbergia sp. at Cypress Gardens, Polk County, September 16. (Sloan). ALABAMA - Considerable infestations of Eriococcus azaleae (azalea bark scale) noted on azaleas in Clay County. (Owens). CALIFORNIA - Aspidiotus aesculi heavy on cottonwood trees in Yucca Valley, San Bernardino County. Antonina pretiosa and Odonaspis penicillata medium on palm tree nursery stock in Visalia, Tulare County. Ferrisia virgata (striped mealbug) locally heavy on lantana plants in Brawley, Imperial County; this species under eradication treatments in county. Dysmicoccus ryani heavy on juniper nursery stock in Danville, Contra Costa County. Diaspis boisduvalii heavy on orchid nursery stock in San Jose, Santa Clara County. (Cal. Coop. Rpt.).

THRIPS - ALABAMA - Tremendous numbers occurring on isolated plantings and groups of plantings of spider lilies in Lee County. Many blossoms ruined in few days by excessive feeding. (McQueen).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - ALABAMA - Population increase noted, especially in shaded areas aroung homes in Lee and Macon Counties. (Barwood et al.). OKLAHOMA - Mosquito adults heavy in Bryan and Blaine Counties. (Okla. Coop. Sur.). UTAH - Annoyance decreased since frost and cold weather. (Knowlton). NEW MEXICO - Very annoying in cotton fields in southern Dona Ana County. (N. M. Coop. Rpt.).

A BLACK FLY (Simulium vittatum) - PENNSYLVANIA - Heavy and annoying man and animals over Warren County. Some reports of bites. (Adams).

HORN FLY (Haematobia irritans) - OKLAHOMA - Average per head as follows: 100 on bulls, 20 on steers and 15 on cows shortly after rain in Payne County. Ranged 300-400 per head on cows in Noble County 2 days after rain. Heavy in Mayes County and moderate in Hughes and Bryan Counties. (Okla. Coop. Sur.).

HORSE FLIES (Tabanus spp.) - OKLAHOMA - Heavy on cattle in Choctaw County; light in Noble County. (Okla. Coop. Sur.).

HOUSE FLY (Musca domestica) - OKLAHOMA - Moderate to heavy around homes and barns in Blaine, Hughes and McCurtain Counties. Counts up slightly in Payne County. (Okla. Coop. Sur.). IDAHO - High populations a nuisance in Caldwell area. (Homan, Sept. 17). More abundant in Moscow area than observed in last 20 years. Nuisance in buildings and houses and severely annoying cattle. (Manis).

BLACK WIDOW SPIDER (Latrodectus mactans) - NEVADA - Of concern to homeowners as cool weather caused movement into and around buildings in Reno-Sparks area of Washoe County. (Coop. Rpt.). NEW MEXICO - Heavy populations of spiders and eggs observed in horse stalls and tackrooms at race track in southern Dona Ana County. (Mathews, Hare, Campbell).

BROWN DOG TICK (Rhipicephalus sanguineus) - OKLAHOMA - Infesting several homes in Payne County. (Okla. Coop. Sur.).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Populations continue heavy on cattle in McCurtain County. (Okla. Coop. Sur.).

DOG FOLLICLE MITE (Demodex canis) - OKLAHOMA - Caused demodectic mange on dogs in Noble County. (Okla. Coop. Sur.).

A SCOLIID WASP (Scolia dubia) - ALABAMA - Large numbers on fairways of country club in Morgan County annoying golfers. Apparently seeking larvae of Cotinis nitida (green June beetle) for oviposition. Det. by E. U. Balsbaugh. (Robertson).

SADDLEBACK CATERPILLAR (Sibine stimulea) - ALABAMA - Several reports of "stinging" children. Larvae on ornamental shrubs and shade trees around homes. (McQueen).

FLEAS (Ctenocephalides spp.) - RHODE ISLAND - House infestations reported in Kingston and Narragansett, Washington County; and in Lincoln, Cranston and Providence in Providence County. (Veilleux, King, Mathewson). PENNSYLVANIA - Numerous complaints of mainly C. felis in basements and yards in eastern part of State. Very annoying. (Gesell). NORTH CAROLINA - Noted in yard and buildings of a Burke County school. (Speas, Mount).

HOUSEHOLD AND STRUCTURAL INSECTS

MILLIPEDS - KANSAS - Invading homes in White City, Morris County. (Brooks). WISCONSIN - These and crickets reported as main pests in scattered areas of State. Of concern in houses. (Wis. Ins. Sur.). MICHIGAN - More than usual problems with millipeds and sowbugs. (Kidd, Janes). RHODE ISLAND - Numerous in cellar of house in Kingston, Washington County. (Mathewson, Sept. 17). VIRGINIA - Large numbers in home in Grundy, Buchanan County. (Isakson, Abbott, Sept. 20).

SOWBUGS - MARYLAND - Numerous in basements of several homes in Montgomery and Prince Georges Counties. (U. Md., Ent. Dept.).

NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla) - NORTH CAROLINA - Annoying around homes in areas of Franklin and Johnston Counties, September 18-21. (Wray).

CRICKETS - MICHIGAN - Numerous reports of household annoyance in southern counties. (Janes). NEVADA - Nymphs continue to invade yards and homes in northwest Reno, Washoe County. Some damage to clothing in homes. (Coop. Rpt.).

BOXELDER BUG (Leptocoris trivittatus) - MARYLAND - Noted locally at Morningside, Prince Georges County. (U. Md., Ent. Dept.). UTAH - Entering homes in areas of Cache and Box Elder Counties. (Knowlton).

CASEMAKING CLOTHES MOTH (Tinea pellionella) - TEXAS - Heavy local infestation in homes in Cherokee County. (Harris).

STORED-PRODUCT INSECTS

CONFUSED FLOUR BEETLE (Tribolium confusum) - ARIZONA - This species heavy and Sitophilus oryzae (rice weevil) present in stored feed on ranch near Scottsdale, Maricopa County. (Ariz. Coop. Sur.).

BENEFICIAL INSECTS

LADY BEETLES - NEW MEXICO - Abundant and feeding on Aphis gossypii (melon aphid) in cantaloup and melon fields in Bernalillo County. (Heninger). Generally light in cotton and alfalfa in southern counties. (Hare, Mathews). ILLINOIS - Adults varied 0-60 (average 33) per 100 sweeps in clover and alfalfa in Champaign County. (Ill. Ins. Rpt.). MICHIGAN - Adults of various species ranged 0-12 and averaged 4 per 10 sweeps in 6 alfalfa fields in Tuscola County, September 21. (Dowdy).

DAMSEL BUGS - NEW MEXICO - Generally light in cotton and alfalfa in southern counties. (Hare, Mathews). MICHIGAN - Adults ranged 1-12 and averaged 5 and nymphs ranged 0-1 and averaged 0.3 per 10 sweeps in 6 alfalfa fields in Tuscola County, September 21. (Dowdy). ILLINOIS - Nabis spp. varied 60-180 (average 120) per 100 sweeps in alfalfa and clover in Champaign County. (Ill. Ins. Rpt.).

LACEWINGS - NEW MEXICO - Eggs noted in all fields checked in Luna and Hidalgo Counties. (N. M. Coop. Rpt.).

SYRPHID FLIES - NEW MEXICO - Larvae abundant and feeding on Aphis gossypii (melon aphid) in cantaloup and melon fields in Bernalillo County. (Heninger).

A PARASITIC WASP - NEW MEXICO - Abundant and attacking Aphis gossypii (melon aphid) in cantaloup and melon fields in Bernalillo County. (Heninger).

Beneficial Insects in Cotton in California -Abundance variable in Imperial County cotton depending upon chemical treatments in fields. Geocoris spp. (big-eyed bugs) generally abundant. Collops spp. (melyrid beetles), Chrysopa spp. (green lacewings) and anthocorid bugs less abundant. Sinea confusa (an assassin bug) and spiders abundant in some fields of cotton in county. In one field, what appeared to be threat by Heliothis zea (bollworm), apparently checked by beneficial insects, mainly spiders. (Campbell, Sept. 16). Chrysopa spp. continue very abundant in most areas of San Joaquin Valley; anthocorid bugs and Collops spp. generally very abundant; however, these insects noticeably absent in some fields. (Leigh, Sept. 17). Lacewings abundant in most fields in Kings County where aphids present in cotton. Beneficial insects generally low in fields where certain controls applied. (McCutcheon, Sept. 17).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - OHIO - Heavy larval infestations reported in vicinities of Ravenna, Portage County, and Boston Hills, Summit County. (Custer, Shepeard). Single adult finds made at Carbon Cliff, Rock Island County, ILLINOIS; and at North Vernon, Jennings County, and Marion, Grant County, INDIANA. Adults found at Hanover, Jefferson County, Indiana, are a new county record. Treatment completed on total of 4,915 acres along expressways and toll roads in Chicago area of Illinois; and a total 155 acres in Louisville, Lexington and Henderson, KENTUCKY. (PPC Cent. Reg., Aug. Rpt.).

WHITE-FRINGED BEETLES - (Graphognathus spp.) - New county records are Clay County, ALABAMA; St. Landry and Ouachita Parishes, LOUISIANA; and Marshall County, MISSISSIPPI. New infested areas found in Blount, Calhoun, Cleburne, Colbert, Etowah, Lee, Madison, Morgan, Shelby, Talladega, Tallapoosa, Tuscaloosa and Walker Counties of Alabama. Initial infestations found in towns of Marion and Vincent, Crittenden County, ARKANSAS. Extensions of infested areas found in Escambia, Gadsden, Jefferson, Leon, Okaloosa, Santa Rosa and Washington Counties, FLORIDA; Berrien, Bulloch, Candler, Coffee, Decatur, Jefferson, Laurens, Meriwether, Pulaski, Richmond, Seminole and Worth Counties, GEORGIA; Greene, Hamilton, Hardeman, Roane, Tipton and Weakley Counties, TENNESSEE; and in Lafayette and St. James Parishes, Louisiana. Light general infestation found on Avery Island, Iberia Parish, Louisiana. (PPC South. Reg., Aug. Rpt.).

CORRECTIONS

CEIR 15(12): 232 - BLUEBERRY, CRANBERRY AND CURRANT INSECTS - Paragraph 2, line 9 - Contarina vaccinii should read Contarinia vaccinii.

CEIR 15(13): 265 - Second paragraph, line 10 - SUGAR-BEET ROOT MAGGOT (Tenanops mycpaeformis) should read (Tetanops myopaeformis).

CEIR 15(37): 1057 (DETECTION) and 1080 - A BROWN SPIDER (Loxosceles reclusa) - ILLINOIS - Should read Red Bud, Randolph County.

CEIR 15(39): 1113 (DETECTION) - Delete entire section. Substitute corrected detection appearing on page 1134 of CEIR 15(40).

CEIR 15(39): 1113 - SPECIAL REPORTS - Some Observations on the Biological Control of Alfalfa Weevil in Western Massachusetts (p. 1134) should read (p. 1131).

CEIR 15(39): 1129 - SOUTH DAKOTA - Line 6 - SOUTHERN CORN ROOTWORM (Diabrotica longicornis) should read NORTHERN CORN ROOTWORM (D. longicornis).

ADDITIONAL NOTES

SOUTH DAKOTA - Adults of WESTERN CORN ROOTWORM (Diabrotica virgifera) present in reduced numbers compared with previous weeks; averaged 1 per stalk in field of corn sampled in Hutchinson County. NORTHERN CORN ROOTWORM (D. longicornis) averaged 2 per stalk in corn sampled in Hutchinson and Yankton Counties. D. longicornis averaged 25 adults per 100 sweeps in grass and weeds at edge of field of corn in Hutchinson County. CORN EARWORM (Heliothis zea) infested 40 percent of mature corn ears in Yankton County field; larvae in third to fifth instars. EUROPEAN CORN BORER (Ostrinia nubilalis) infested 20 percent of ears in field of corn near Menno, Hutchinson County; second and third-stage larvae numbered 2-6 per infested cob. (Jones). Grasshopper survey for week ending September 20 showed numbers mostly non-economic in western Pennington and Lawrence Counties, with few areas of light infestation. Melanoplus dawsoni, Camnula pellucida (clear-winged grasshopper) and M. bivittatus (two-striped grasshopper) were species present. (Burge, Zimmerman). HORN FLY (Haematobia irritans) averaged approximately 150 per side on cows in herd checked near Ideal, Tripp County. (Jones).

LIGHT TRAP COLLECTIONS

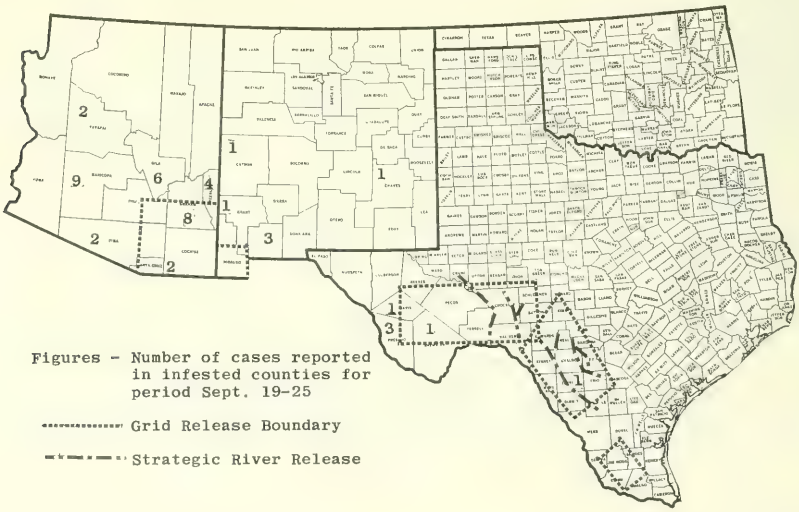
	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Capnodisa nonomella (cotton soft)	Chrisoperla sullivanii (lacy cutworm)	Esigmene acrea (salt-marsh caterpillar)	Feltia ducta (giant lead sfrayworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commistalis (alfalfa webworm)	Loxostege sticticalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Prosopocera dilinomamculata (cosmo hornworm)	Prosopocera sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera ornigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 9/20			BL	1					2		1						4			2		8		
MICHIGAN (Counties)																								
Monroe 9/14-20			BL	6							7			8	13	6			20			4	
Berrien 9/14-20			BL	11							5			16	2	5			16			9	
Branch 9/14-20			BL	9							4			19	5	7			24			7	
Kalamazoo 9/14-20			BL	3							1			5	1	2			9			3	
Jackson 9/14-20			2 BL	7							3			7	11	1			23			2	
Livingston 9/14-20			BL	8							2			20	13	3			28			5	
Ionia 9/14-20			BL	14							9			19	11	1			34			3	
Saginaw 9/14-20			BL	2							10			13	1	1			12			2	
Sanilac 9/14-20			BL	13							3			14	7	2			27			1	
Ogemaw 9/14-20			BL	5							1			2	3	0			10			0	
Newaygo 9/14-20			BL	7							3			14	11	3			16			4	
MISSISSIPPI																								
Stoneville 9/17-23	66-91	1.35	2 BL	272			3		912	4	4440					1152		27	688	1024	608	3344		
Tunica 9/17-23	63-92	3.45	BL	32			3		1216	9	6492					368	1	71	224	384	416	1362		
Rolling Fork 9/17-23	69-94	0.59	BL	64					256	112	1516				16	544		70	272	612	560	7104		
OHIO (Counties)																								
Licking 9/17-23				4							40				18	16			9		3			
Franklin 9/18-20				18				8			172				8	4			6		50			
TENNESSEE (Counties)																								
Maury 9/7-13											32					15	2	18	16					
Robertson 9/7-13											28					12	2	2	4					
Cumberland 9/7-13											24					8	5	2	12					
Knox 9/7-13											12					21	1		39		16			
Johnson 9/7-13											56					10		3	96					
Robertson 9/14-20											96				4	12	5	2	16					
Cumberland 9/14-20											68							1	4		8			
Johnson 9/14-20											36					28	3	4	4		4			
TEXAS																								
Waco 9/18-24				1			0		78	89	118				71	32			13	3	4	246		
WISCONSIN																								
Mazomanie 9/17-23			BL	23							6			0	22				0					
Madison 9/15-23	45-84		BL	2							86			9	5				72					
Middleton 9/15-23			BL								41			8	5				16					
De Forest 9/14-20			BL								34			5					28					
Eden 9/14-20			BL								3			1					1					
Nenno 9/14-20			BL								6			0					2					
Wayne 9/14-20			BL								26			5					11					
Theresa 9/14-20			BL								12			2					16					
Hancock 9/16-22			BL	1							33			5	2				5					
WYOMING																								
Centennial 8/28-9/3				1		6									6				1					
Centennial 9/4-10				2		5									1									

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period September 19-25 a total of 47 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Presidio 3 and Zavala, Brewster and Jeff Davis 1 each; NEW MEXICO - Hidalgo 2, Luna 3 and Chaves, Grant and Catron 1 each; ARIZONA - Greenlee 4, Gila 6, Graham 8, Maricopa 9 and Pima, Cochise and Yavapai 2 each. The Republic of Mexico reported 371 cases; Sonora 58, Coahuila 19, Chihuahua 38, Veracruz 72, Tamaulipas 5, Territorio sur de Baja California 4, San Luis Potosi 20, Durango 75, Oaxaca 12, Nayarit 13, Chiapas 23, Morelos 5, Guerrero 10, Guanajuato 1, Tabasco 6 and Nuevo Leon, Mexico, Jalisco, Zacatecas and Puebla 2 each. Sterile screw-worm flies released: Texas 17,614,250, New Mexico 6,560,000, Arizona 20,198,000, California 640,000 and the Republic of Mexico 58,140,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	349	3321	148	5167	235.81	64.27
1964	1	107	94	4581	1.06	2.33
1965	47	762	68	3937	69.11	19.35
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	354	2524	45	1524	786.66	165.61
1965	163	3884	30	1759	543.33	220.80
Table 3. Specimens determined in Mexico south of Barrier Zone.						
1965	188					

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



C O P Y

UNITED STATES DEPARTMENT OF AGRICULTURE W-206
Agricultural Research Service
Entomology Research Division
Grain and Forage Insects Research Branch

SAWFLY POPULATION SURVEY

By

Lew E. Wallace

SUMMARY

A general survey of the sawfly populations in the state was attempted. From the examination of 50 stems on the border and 20 yards in, a map of the populations was plotted. As many samples as were deemed necessary were taken in each county with wheat acreage.

In general, the sawfly populations were low. Where high populations were encountered it was sometimes restricted to one or a few fields in the area and indicating the farming practices of one operator. In some cases, however, a sizeable area had a fair population.

REPORT

A survey was conducted to determine areas of high sawfly populations in Montana. This was a preliminary study to determine the best way to make such a survey and to locate wheat-producing areas in the state.

Procedure

Two samples were made in each field along the border and 20 yards in on the strip. Fifty stems were examined at each location. The stems were examined to determine if they were solid or hollow. The solid stems were assumed to be sawfly resistant wheat and were not sampled. Twenty sampling sites in each county were attempted, and in some counties more sites were sampled.

Results

The results are shown in the map (Figure 1). The populations in general are light. However, in the Triangle area several pockets of populations high enough to pose a potential threat are plotted. In one area south of Cut Bank a high population was found. In Phillips, McCone, and Sweet Grass counties, pockets of fair sawfly infestations occurred also.

Conclusions

The spottiness of the infestations of economic importance indicates that farming practices of individual operators may be responsible. In other areas where the population is heavy over a larger area, climatic conditions coupled with farming practices may be responsible.

The overall low populations are probably due in part to the farm program which has taken the farmer's acreage out of wheat and forced him into a rotation of barley, durum or other sawfly resistant crops. It is also due in part to winter wheat in place of spring wheat. However, the threat remains and an increase of susceptible wheat could easily afford the sawfly an opportunity to increase.

The sampling methods used are not regarded as reliable or complete. It is suggested that more sampling sites be used and the following notations made:

1. Sample wheat on borders and 20 feet in but avoid border close to permanent grass cover that maintains a sawfly population.

2. Note the wheat as to (a) winter or spring, (b) hollow- or solid-stemmed, and (c) durum or bread wheat.

3. Record percentage of cutting.

4. Record the date of survey.

5. Mark the sampling site on the map.

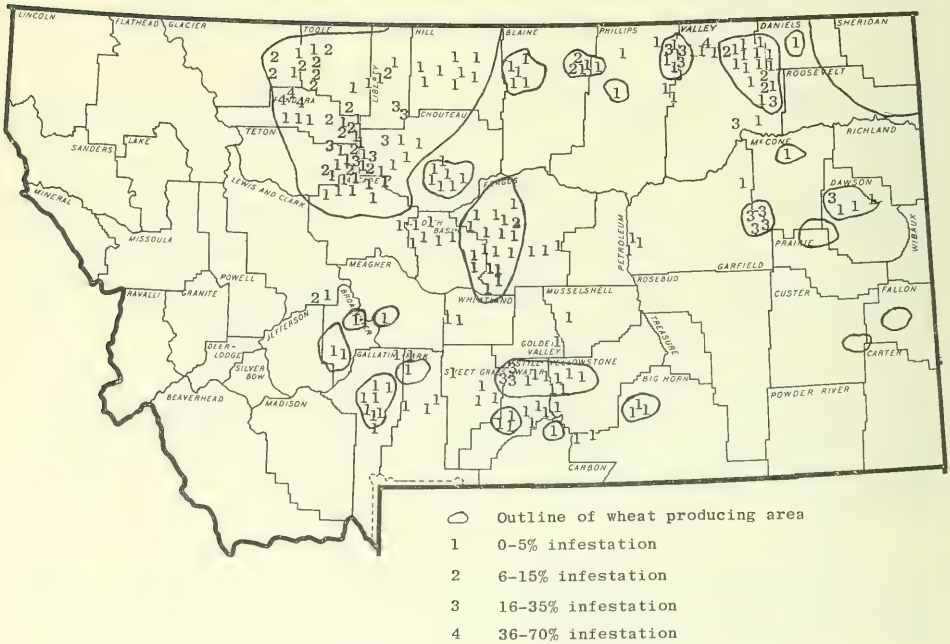


Figure 1. Location and severity of wheat stem sawfly infestations in the wheat-producing areas of Montana, based on preliminary data.

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 October 8, 1965 Number 41

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

THREE-CORNERED ALFALFA HOPPER continues to increase in alfalfa in areas of Arizona and heavy damage reduced yields; SORGHUM MIDGE severe on late-planted sorghums and heavily damaged grain heads in Cochise County. (p.1167). FALL ARMYWORM damaging alfalfa, small grains, pasture grasses and field corn in Missouri, Kansas and Ohio. NORTHERN CORN ROOTWORM severe on corn in areas of Ohio. (p.1155). Large populations of CHINCH BUG still occurring on field corn in west central Ohio. RED-LEGGED GRASSHOPPER causing moderate to heavy damage to soybeans in Maryland. GRASSHOPPERS damaging in southern Wisconsin and egg laying observed in Minnesota. (p. 1156).

CABBAGE LOOPER remains important on broccoli and cabbage on Eastern Shore of Virginia and necessitates frequent controls on lettuce in New Mexico. EUROPEAN CORN BORER occurring in fall potatoes in largest numbers ever observed on Eastern Shore of Virginia. (p. 1159).

Predicted epidemic of SOUTHERN PINE BEETLE in Virginia did not materialize except in few counties. Loss of $400,000 due to this pest indicated in Alabama for 1965. (p. 1161). Increase in infestations of RED-HEADED PINE SAWFLY in Michigan over those of 1964 may indicate buildup. (p. 1162). GYPSY MOTH defoliation in Northeast reported. (p. 1163). MOSQUITOES reported as severe in woodland areas of Wisconsin and heavy in Oklahoma. (p. 1165).

DETECTION

A new United States record reported was a GALL MIDGE (Uleela pisonifolia Felt). Collection of this midge in Everglades National Park, Florida, also is the first record for continental North America. (p. 1164).

New State records reported were a TARSONEMID MITE (Tarsonemus scaurus) and a SPIDER MITE (Schizotetranychus lycurus) from Ohio (p. 1156), and an APHID (Myzocallis elegans) from Utah (p. 1163).

New county and parish records included: SPOTTED ALFALFA APHID (Therioaphis maculata) in Eaton, Ionia, Clinton, Ingham, Jackson, Monroe, Livingston, Washtenaw and Oakland Counties, Michigan, (p. 1157); WALNUT HUSK FLY (Rhagoletis completa) in San Mateo County, California, (p. 1158); EUROPEAN EARWIG (Forficula auricularia) in Larimer County, Colorado, (p. 1166); a MOSQUITO (Culex nigripalpus) in Jefferson Parish, Louisiana, (p. 1165); a NOCTUID MOTH (Phlegetonia delatrix) in Kauai County, a WEEVIL (Brachyrhinus cribricollis) in Maui County, and an ANTHRIBID BEETLE (Araeocorynus cumingi) in Hawaii County, Hawaii, (p. 1171).

CORRECTIONS and ADDITIONAL NOTES

See page 1167.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1170).

Hawaiian Insect Notes. (p. 1171).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Soybeans and Corn (for processing) in Maryland in 1964. (p. 1172).

Corn Insect Survey in Indiana, Fall 1964. (p. 1173).

Reports in this issue are for week ending October 1 unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

OCTOBER 1965

The Weather Bureau's 30-day outlook for October calls for temperatures to average above seasonal normals in the western half of the Nation except for near to below normal over the southern Plains. Below normal averages are expected over the eastern half with greatest departures in the South and East. Rainfall is expected to be subnormal over the western three-quarters of the Nation except for near normal in the Pacific Northwest and also along the southern border. Elsewhere near normal totals are anticipated except for the South Atlantic States where rainfall is expected to exceed normal.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

WEATHER OF THE WEEK ENDING OCTOBER 4

HIGHLIGHTS: (1) Another cold week, most areas. (2) Rains light in West, light to heavy East. (3) Record cold September, northern Plains.

TEMPERATURE: It was another cold week in most sections of the 48 States. Only fringe areas, i.e., Florida, south California coast, Pacific Northwest, were near or slightly above normal. In Texas, the Dakotas, and New England weekly averages ranged down to 6° to 9° below normal. The northern Rockies and northern Plains had the 7th consecutive cold week. Fortunately the cold weather pattern broke late in the week as high barometer overspread the country and reminded one of Indian summer. Mild, dry air of Pacific origin moved eastward to the Dakotas. With clear skies and light winds, minimum temperatures were in the 30's and 40's with maximums in the 60's and 70's. Daily temperature ranges as large as 40° were common in the northern Plains late in the week. Drying conditions became excellent over large areas. Freezing temperatures were widespread in almost the entire northern tier of States. In the Rockies and the Plateau region, freezes were general to the southern limits of Utah and Colorado. In the western Corn Belt, the freeze line was farther north than in previous weeks. In much of New England, freezes ended the growing season.

PRECIPITATION: Rain fell mostly during the first 3 or 4 days. A low moved slowly from the northern Rockies to north of the Great Lakes producing 1 to 2 inches over the northern Plains. Tropical storm Debbie moved into the northeastern gulf coast causing heavy rains as far northeastward as Ohio and Pennsylvania. The Brunswick, Georgia, area received more than 10 inches. Very little rain fell elsewhere over the country, except for 1-inch rains in southeast Texas late in the week. In California and parts of Arizona, Nevada, and Oregon this was either the 2d or 3d dry week. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN EARWORM (Heliothis zea) - MICHIGAN - First large-scale flight of season occurred week ending September 27. Blacklight trap collections very heavy on evenings of September 21 and 22, especially at eastern locations on Lower Peninsula. (See light trap collections, page 1168). Another heavy flight occurred September 28. (Newman). MARYLAND - Larvae heavily damaged pods of soybeans in several late maturing fields near Salisbury, Wicomico County. (U. Md., Ent. Dept.) COLORADO - Damage estimates as high as 70 percent reported on corn in Mesa, Delta and Montrose Counties. (Hantsbarger). Small numbers of adults present on blossoms of rabbitbrush in Larimer County. (Simpson). CALIFORNIA - Causing heavy damage to heads of milo in Tulare County. (Cal. Coop. Rpt.).

FALL ARMYWORM (Spodoptera frugiperda) - KANSAS - Reported damaging seedling alfalfa in south central district. (Reading). OHIO - Infesting ears of field corn in field in western Franklin County; 7 of 25 ears checked had up to 2 late-stage larvae per ear. Corn well past dent stage and ripening. Only 1 larva found in 25 ears checked in another field few miles distant. (Rose). Few larvae noted boring into stalks of corn in fields in Logan County. (Barry). MISSOURI - Larvae damaging some early seedings of small grains, permanent pasture grasses and alfalfa in southwest area. Damage ranges from light to destruction of stand. Larvae in all stages of development. (Wkly. Ins. Rpt.).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - VIRGINIA - Severe in field of corn in Charles City County; 95 percent of stalks show evidence of presence of borers although very few borers found at present time. (Isakson, Settle, Sept. 27).

SOUTHWESTERN CORN BORER (Zeadiatraea gradiosella) - ILLINOIS - None found in survey conducted in Randolph and Jackson Counties. (Ill. Ins. Rpt.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MICHIGAN - Percent plants infested by first and second-brood larvae in 15 fields sampled September 24 and 28, by county, as follows: Ingham, 13 in 5 fields; Jackson, 26 in 5 fields; Clinton, 18 in 5 fields. (Dowdy). SOUTH DAKOTA - Little damage to corn plants evident in Union, Clay, Yankton, Turner and Lincoln Counties. Infestation varied 0-84 percent of stalks infested in fields checked. Borer numbers somewhat similar to those present in 1964. Larvae ranged second to fourth instar, mostly third instar. (Jones). MISSOURI - Infestations rather high in many fields of middle and late season planted corn over northern half of State. These second-generation larvae will continue to cause stalk breakage and ear drop. (Wkly. Ins. Rpt.).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - MARYLAND - Numerous adults collected from and nearby corn near Keymar, Carroll County. (U. Md., Ent. Dept.). OHIO - Survey conducted August 16 through September 6 in 34 counties. Of 1,614 fields checked, 178 severely infested; beetles ranged 1-18 per plant, lodging varied 0-40 percent, and 63 percent of silks cut off. (Polivka). MICHIGAN - Adults common in alfalfa near infested corn. Averaged 7 and 18 per 20 sweeps in 2 fields of alfalfa in Oakland County September 28. (Newman).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - MARYLAND - Larvae caused considerable lodging of corn in central and western Carroll County. (U. Md., Ent. Dept.).

CORN LEAF APHID (Rhopalosiphum maidis) - OHIO - Heavy infestation observed on field corn near Degraff, Logan County. Pollination affected; many ears unfilled in this field. Heavy infestations and barren stalks observed in fields in Shelby and Mercer Counties. (Barry). SOUTH DAKOTA - Ranged 50-75 per stalk in protected areas on corn plants sampled in southeastern area. Majority of aphids noted on inner side of corn husks on cobs in standing corn. (Jones). WISCONSIN - Remains common beneath leaf sheaths of late corn. (Wis. Ins. Sur.).

CHINCH BUG (Blissus leucopterus) - OHIO - Large populations still occurring on field corn in west central area. Particularly heavy infestation observed in Logan County field about 5 miles north of Degraff; largest numbers found in low spots in field, with over 500 individuals noted on some stalks. Corn about 18 inches high. Other heavy infestations observed in fields near McCarthyville and Sidney, Shelby County. (Barry).

SORGHUM MIDGE (Contarinia sorghicola) - CALIFORNIA - Adults heavy locally in fields of milo in Visalia, Tulare County. (Cal. Coop. Rpt.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - OHIO - Extremely heavy infestation on leaves of corn reported from Celeryville, Huron County. Det. by D. Johnston. (Creamer).

A TARSONEMID MITE (Tarsonemus scaurus) - OHIO - Large numbers present on stems, leaves and tassels of corn near Hoytville, Wood County, September 14, 1965. Significance of this heavy infestation uncertain. Det. by D. Johnston. This is a new State record. (Creamer).

GRASSHOPPERS - MARYLAND - Melanoplus femurrubrum (red-legged grasshopper) adults causing moderate to heavy injury to several fields of soybeans in Wicomico County. (U. Md., Ent. Dept.). MICHIGAN - Adults of Melanoplus spp. averaged 0.4 and nymphs 0.2 per 10 sweeps in 18 fields of alfalfa sampled in 7 Lower Peninsula counties September 21, 24 and 28. (Dowdy). WISCONSIN- Grasshoppers feeding on alfalfa, and in some instances corn, in southern half of State. (Wis. Ins. Sur.). MINNESOTA - Grasshoppers observed laying eggs in Wright County. Cool, wet weather reduced activity during week ending September 24. (Minn. Ins. Rpt.). SOUTH DAKOTA - Grasshoppers reported damaging some early winter wheat in Dewey County; damage also noted in late crops in Grant County. (Jones). KANSAS - Preliminary results of fall grasshopper survey indicate absence of any heavy infestations, although average of 25 per square yard in alfalfa noted at one location in Jewell County. Ranged 9-10 per square yard at locations in Clark, Crawford, Neosho and Montgomery Counties. Numbers noneconomic at most other locations. (Thiewes). COLORADO - Weather mostly cold and wet during week ending October 1; temperatures below freezing on several nights apparently caused some grasshopper mortality. (Colo. Ins. Sur.). WYOMING - Cooperative treatments for grasshoppers applied to total of 339,641 acres in State. Acreage treated by county as follows: Washakie 6,630, Johnson 10,941, Goshen 16,145, Platte 4,190, Converse 14,132, Sheridan 287,603. (Spackman). UTAH - Grasshoppers spottedly numerous in some northern localities. Melanoplus sanguinipes (migratory grasshopper) very numerous in area near Cove, Cache County. (Knowlton).

GREEN JUNE BEETLE (Cotinis nitida) - NORTH CAROLINA - Larvae reported damaging lawn in Cleveland County. (Clapp, Robertson).

LEAFHOPPERS - OKLAHOMA - Several species heavy in Bermuda grass lawns in Stillwater, Payne County. (Okla. Coop. Sur.).

A CHINCH BUG (Blissus sp.) - ALABAMA - Isolated infestations and considerable damage occurring on few lawns of St. Augustine grass in Lee and Jefferson Counties. (Pruett et al.).

A SPIDER MITE (Schizotetranychus lycurus) - OHIO - Collected from rice cutgrass in Putnam County September 14, 1965. Det. by D. Johnston. This is a new State record. (Creamer).

PEA APHID (Acyrthosiphon pisum) - MICHIGAN - Adults and nymphs in alfalfa averaged 193 per 10 sweeps in 18 fields checked in Eaton, Ionia, Clinton, Ingham, Jackson, Monroe and Livingston Counties on September 21, 24 and 28. (Dowdy). ARKANSAS - Results of surveys negative in northwest area. (Ark. Ins. Sur.). OKLAHOMA - Light in McCurtain County alfalfa; averaged 5 per 10 sweeps. (Okla. Coop. Sur.). NEW MEXICO - Light to medium numbers noted in alfalfa in Dona Ana and Rio Arriba Counties. (Mathews, Heninger, Kloepfer). UTAH - Very numerous on alfalfa in some Davis County fields. (Knowlton).

SPOTTED ALFALFA APHID (Therioaphis maculata) - MICHIGAN - Very small numbers of adults and nymphs collected in Eaton, Ionia, Clinton, Ingham, Jackson, Monroe, Livingston, Washtenaw and Oakland Counties. These are all new county records. Since initial find in State in September, T. maculata has been found in 14 counties. Infestations very light in already recorded counties of Calhoun, Branch, St. Joseph, Cass and Van Buren. Data show species widespread over Lower Peninsula as far as, but not yet collected in, Gratiot County. Counts averaged 3.3 per 10 sweeps in 18 fields sampled in Eaton, Ionia, Clinton, Ingham, Jackson, Monroe and Livingston Counties on September 21, 24 and 28. (Dowdy). NEBRASKA - Populations moderate in Dundy, Keith and Sheridan Counties. (Manglitz). OKLAHOMA - Infestations ranged 600-700 per 10 sweeps in alfalfa checked in Jackson County; some spraying underway. Averaged 20 per 10 sweeps in McCurtain County alfalfa. (Okla. Coop. Sur.). ARKANSAS - None found during surveys in northwest area. (Ark. Ins. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - MICHIGAN - Adults averaged 8.7 per 10 sweeps in 18 fields of alfalfa checked in 7 counties on Lower Peninsula. (Dowdy).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - MICHIGAN - Adults averaged 2.9 and nymphs 6.3 per 10 sweeps in 18 fields of alfalfa checked in 7 Lower Peninsula counties September 21, 24 and 28. (Dowdy).

POTATO LEAFHOPPER (Empoasca fabae) - MICHIGAN - Adults averaged 10.5 and nymphs 2.7 per 10 sweeps in 18 fields of alfalfa checked September 21, 24 and 28 in 7 Lower Peninsula counties. (Dowdy).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - OKLAHOMA - Averaged 22 per 10 sweeps in alfalfa in McCurtain County; moderate in Payne County. (Okla. Coop. Sur.).

MEADOW SPITTLEBUG (Philaenus spumarius) - MICHIGAN - Adults in alfalfa averaged 5.6 per 10 sweeps in 18 fields checked in 7 Lower Peninsula counties September 21, 24 and 28. (Dowdy).

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Larvae range 15-18 per 25 sweeps in alfalfa in southern Dona Ana County, with heavy adult flights noted in some fields. (Mathews). ARKANSAS - Moths very numerous in alfalfa in northwest area; larval numbers very low. (Ark. Ins. Sur.). MICHIGAN - Averaged 0.5 per 10 sweeps in alfalfa in 18 fields checked in 7 Lower Peninsula counties. (Dowdy).

GREEN CLOVERWORM (Plathypena scabra) - ARKANSAS - Larvae numerous but noneconomic in alfalfa in northwest area; ranged 50-75 per 100 sweeps. (Ark. Ins. Sur.). MICHIGAN - Averaged 0.4 larva per 10 sweeps in 18 fields of alfalfa in 7 Lower Peninsula counties September 21, 24 and 28. (Dowdy).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Heavy numbers present in late field of peanuts at Tumbleton, Henry County. Light numbers of Heliothis zea (corn earworm) also present in this field. (Watson).

WEBWORMS (Loxostege spp.) - OKLAHOMA - Reported heavy in young alfalfa in Jackson County; some fields sprayed. (Okla. Coop. Sur.).

LEPIDOPTEROUS LARVAE - SOUTH CAROLINA - Built up in many fields of soybeans, with some fields showing heavy leaf damage; damage heaviest in Allendale and Hampton Counties. Continued inspection of fields more necessary in Savannah Valley than other parts of State. (Nettles et al., Sept. 28).

ALFALFA WEEVIL (Hypera postica) - NEW MEXICO - Damage to alfalfa apparent in fields at Ojo Caliente and Abiquiu, Rio Arriba County. (Heninger). OHIO - Activity apparently increasing in eastern area. Averaged 6 larvae per 10 sweeps in alfalfa near Lisbon, Columbiana County. Night collecting in same area showed approximately 3 adults per 10 sweeps. (Niemczyk, Flessel).

CLOVER LEAF WEEVIL (Hypera punctata) - IDAHO - Adults found in lawns and flower beds at Grand View, Owyhee County. (Edwards).

SWEETCLOVER WEEVIL (Sitona cylindricollis) - NEBRASKA - Adults averaged 15 per sweep in field of alfalfa in Lancaster County. (Stevens).

BEAN LEAF BEETLE (Cerotoma trifurcata) - MARYLAND - Adults causing conspicuous foliage in several fields of soybeans in Wicomico County. (U. Md., Ent. Dept.).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - OKLAHOMA - Full-grown larvae found in apples in Payne County. (Okla. Coop. Sur.). NEW MEXICO - Light damage noted in Velarde Valley, Rio Arriba County. Controls gave good results in most orchards. (Heninger).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - VIRGINIA - Damaging tops of 6 peach trees in Stafford County. (Isakson, Beck, Sept. 24).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MARYLAND - Few larvae collected September 29 from apple twigs at Princess Anne, Sommerset County. (U. Md., Ent. Dept.).

SAP BEETLES (Carpophilus spp.) - CALIFORNIA - Adult populations of C. hemipterus (dried fruit beetle) and C. humeralis heavy in over-ripe peach fruit in Merced and medium in Le Grand, Merced County. (Cal. Coop. Rpt.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Larvae medium in peach fruit in Redwood City, San Mateo County. This is a new county record. (Cal. Coop. Rpt.).

APPLE MEALYBUG (Phenacoccus aceris) - NEW HAMPSHIRE - Buildup heavy in orchard at New Hampton. (Conklin, Sept. 24.).

WOOLLY APPLE APHID (Eriosoma lanigerum)- NEW MEXICO - Heavy on some apple trees at Velarde, Rio Arriba County. (Heninger).

PEACH SILVER MITE (Aculus cornutus) - COLORADO - Causing silvering in few Mesa County peach orchards. (Bulla).

SPIDER MITES - COLORADO - Populations of Tetranychus telarius (two-spotted spider mite) and Panonychus ulmi (European red mite) relatively low because of rains and cool temperatures but still active and feeding. Apple harvest under way in Mesa, Montrose and Delta Counties. (Bulla, Hantsbarger).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Medium to heavy on pecan and apple trees, some heavily defoliated. (N. M. Coop. Rpt.). OKLAHOMA - Continues to damage pecan, walnut and other trees in some areas. (Okla. Coop. Sur.). ALABAMA- Quite serious in some orchards in Covington County. (Linder).

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - Full-grown larvae present on pecans in Payne County. (Okla. Coop. Sur.). TEXAS - Probably this species, defoliating pecans in Nacogdoches County. (Hodges).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Moderate to heavy on pecans in Cleveland County. (Okla. Coop. Sur.).

A FALSE POWDER-POST BEETLE (Xylobiops basilaris) - ALABAMA - Adults attacking dying and damaged pecan limbs in Jefferson, Lee and other counties. Also infesting an apparently healthy tree in Jefferson County. (McQueen)

APHIDS - ALABAMA - Melanocallis caryaefoliae (black pecan aphid) and Monellia spp. continue heavy and damaging pecans in Baldwin, Clarke, Conecuh, Covington and other southern counties, with considerable defoliation noted. (Turner et al.).

PACIFIC SPIDER MITE (Tetranychus pacificus) - CALIFORNIA - Medium on young almond trees in Paso Robles, San Luis Obispo County. (Cal. Coop. Rpt.).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Adult populations built up following apparent reduction by Hurricane Betsy. Recent collections extend known distribution to Clewiston, Hendry County; Homestead, Dade County; Vero Beach, Indian River County. (Fla. Coop. Sur.).

A LABIDURID EARWIG (Euborellia cincticollis) - CALIFORNIA - Populations on citrus light in Reedley and Orange Cove and medium in Sanger, Fresno County. (Cal. Coop. Rpt.).

GRAPE ROOT BORER (Vitacea polistiformis) - ALABAMA - Pupating along ground and next to trunks of several 10-year-old grape plants in Lee County. (McQueen).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) - VIRGINIA - Still most important pest of broccoli and cabbage on Eastern Shore. Population approaching another peak; hot, dry weather slowed spread of virus disease. (Hofmaster, Sept. 24.). MARYLAND - This species and Hellula rogatalis (cabbage webworm) moderate on rape planting near Piscataway, Prince Georges County. (U. Md., Ent. Dept.). NEW MEXICO - Larvae and eggs of T. ni on Dona Ana County lettuce, require controls every 4-6 days. (Wayne, Clute). MICHIGAN - Adult flights remain relatively light over Lower Peninsula despite few favorable nights. (Newman).

TOMATO FRUITWORM (Heliothis zea) - MARYLAND - Heavily injured tomato planting near Piscataway, Prince Georges County. (U. Md., Ent. Dept.). VIRGINIA - Increased steadily and damaging snap beans on Eastern Shore. (Hofmaster, Sept. 24). NEW MEXICO- Damage heavy on some cabbage plants in Taos, Taos County. (Heninger).

GRANULATE CUTWORM (Feltia subterranea) - ALABAMA - Light larval numbers girdling some newly transplanted plants in home gardens in central section. (McQueen).

POTATO TUBERWORM (Gnorimoschema operculellum) - VIRGINIA - Well distributed in foliage of fall potatoes on Eastern Shore. Most infestations under control. Treatment of seed potatoes recommended. (Hofmaster, Sept. 24).

IMPORTED CABBAGEWORM (Pieris rapae) - VIRGINIA - Parasitism by braconids extremely high on Eastern Shore; 98 of 100 larvae checked parasitized. (Hofmaster, Sept. 24).

EUROPEAN CORN BORER (Ostrinia nubilalis) - VIRGINIA - Largest numbers ever observed found on fall potatoes on Eastern Shore. Early maturity of field corn contributing factor. (Hofmaster, Sept. 24).

TOMATO HORNWORM (Protoparce quinquemaculata) - OKLAHOMA - Moderate and damaging tomatoes in home gardens in Payne County. (Okla. Coop. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Adults and larvae heavy on peas and snap beans in home gardens in central section. (McQueen). MARYLAND - Heavily injured planting of snap beans at Piscataway, Prince Georges County. (U. Md., Ent. Dept.).

A FLEA BEETLE (Phyllotreta cruciferae) - VIRGINIA - Very numerous on mustard greens, turnip greens, kale, collards, spinach and cabbage on Eastern Shore; over 200 per sweep in one field. (Hofmaster, Sept. 24).

COWPEA CURCULIO (Chalcodermus aeneus) - ALABAMA - Continues serious and damaging in commercial table peas in southeast section. (Glasscock).

A SCARAB (Cotinis sp.) - TEXAS - Damaging tomatoes, okra and sweet peppers in Harris County. (Robeck).

SQUASH BUG (Anasa tristis) - OKLAHOMA - Continues heavy on watermelons in Payne County. (Okla. Coop. Sur.).

HARLEQUIN BUG (Murgantia histrionica) - VIRGINIA - Medium on turnip greens on farm in Isle of Wight County. (Isakson, Stith).

MELON APHID (Aphis gossypii) - CALIFORNIA - Heavy on banana squash in Los Banos, Merced County. (Cal. Coop. Rpt.).

CYCLAMEN MITE (Steneotarsonemus pallidus) - MINNESOTA - Populations high in some fields of everbearing strawberries in central and north central areas during September. Fields treated before planting appeared relatively free of this pest. (Minn. Ins. Rpt., Sept. 24).

A SPIDER MITE (Tetranychus ludeni) - CALIFORNIA - Heavy in tomato plantings in Los Alamitos, Orange County. (Cal. Coop. Rpt.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - OKLAHOMA - Infestations remain moderate to heavy on cotton in McCurtain, Choctaw and Bryan Counties; reported light in Payne County. Averaged 16 percent in treated fields in Jackson County and 60 percent in untreated Tillman County fields. (Okla. Coop. Sur.). TEXAS - Heavy locally in College Station area of Brazos County. Light to heavy, widespread populations present in Cottle and King Counties. Scattered, light to heavy infestations reported in Hall County. (Texas Coop. Rpt.).

BOLLWORM (Heliothis zea) - OKLAHOMA - Light to moderate in cotton checked in southwest, south central, southeast, central and north central areas. (Okla. Coop. Sur.). CALIFORNIA - Populations variable throughout Imperial County; range from 2-3 up to 8-10 per 100 plants; up to 50 larvae per 100 plants reported in few instances. (Campbell, Sept. 23). Evident in many fields in San Joaquin Valley; ranged up to 40 and 50 larvae per 100 plants in some instances. Generally, moth activity declined greatly and very few eggs evident. Majority of larvae second stage or larger, indicating declining population. (Leigh, Sept. 23).

CABBAGE LOOPER (Trichoplusia ni) - OKLAHOMA - Larvae moderate in cotton in McCurtain County. No evidence of virus infection noted. (Okla. Coop. Sur.).

OMNIVOROUS LOOPER (Sabulodes caberata) - CALIFORNIA - Present in many fields of cotton in San Joaquin Valley but damage light. (Leigh, Sept. 23). Variable numbers present in some fields in Imperial County but generally of no concern. (Campbell, Sept. 23).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Causing some damage to cotton bolls in extreme southern Dona Ana County. Medium to heavy infestations reported on cotton in southern Eddy County. (Mathews, Kloepfer). OKLAHOMA - Gin trash and lint cleaner inspections positive in Hughes, Okfuskee, Coal, McCurtain and Caddo Counties. (Okla. Coop. Sur.). TEXAS - Very light populations in cotton found in local areas of Brazos County. (Meisch, Hamman, Bergman).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Populations variable in Imperial County cotton. Numbers economic in some fields but general populations low. (Campbell. Sept. 23). Continue evident in many fields in San Joaquin Valley and high nymphal counts evident in some instances; however, control not practical in most instances as cotton has "cut out" and small bolls have shed. (Leigh, Sept. 23).

STINK BUGS - CALIFORNIA - Euschistus conspersus evident in cotton in western Fresno County; most appear to be diapause individuals and apparently not feeding. (Leigh, Sept. 23). E. servus (brown stink bug) abundant in some Imperial County cotton, but generally not a problem except when migration from fields of milo occurs. (Campbell, Sept. 23).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - ALABAMA - Considerable infestation in Jefferson County; lesser infestations near Piedmont and small infestation in southern part of State. State foresters indicate over $400,000 damage in 1965 where conditions favorable for increased infestations over 1964. (McCullough, Chisum). VIRGINIA - Predicted epidemic did not materialize except in few counties, probably as result of rain throughout high hazard area in July. Aerial survey of Eastern Shore September 3 revealed 36 spot infestations in Accomack County and 5 in Northampton County. Problem area of northern Accomack County now cleared; most infestations in central area of county. Spots range 3-50 trees except on Parramore Island, Accomack County, with 10-acre spot. Spot survey of Goochland and Powhatan Counties September 3 revealed continued activity in same area heavily infested in 1964 but generally obvious slowing of current activity noted in spots showing early season activity. Spots averaged 0.5 acres in number of currently active acres in Amelia County. Survey August 27 from South Boston to Suffolk along State line revealed increasing activity in Buggs Island Lake area east of South Boston but no pine mortality in Franklin or Suffolk areas. Epidemic area in Gloucester and Mathews Counties remains problem because of limited accessibility and markets. Single spot of kill (20-40 trees) noted in Dinwiddie and Prince George County area; 2 spots up to 0.5 acre noted in Hanover County; 4 stands of Virginia and shortleaf pines attacked in Fluvanna County. Adults remain active in Buckingham, Lunenburg, Amelia, Mecklenburg, Halifax, Prince Edward and Nottoway Counties. Three infestations noted in Northampton County. Continues extensive damage in Mathews and parts of Gloucester Counties. Reported in 2 stands in Caroline County. (Va. For. Pest Rpt., Aug. Summ.).

CONIFER BARK BEETLES (Dendroctonus spp.) - VIRGINIA - Infested loblollly and shortleaf pines in 5 stands in Waverly district. Aerial surveys of known critical areas in Dinwiddie, Prince George and Surry Counties continue. Causing decline or death of Virginia and shortleaf pines on 2 tracts each in Madison and Albermarle Counties; active in 2 tracts of shortleaf and loblolly pines in Halifax and Amelia Counties; active in single pitch pine in Henry County. Infesting shortleaf pines at 2 locations in Rockbridge County; killing 2 loblolly pines in Nansemond County location and 20 trees in location in Accomack County. (Va. For. Pest Rpt., Aug. Summ.).

ENGRAVER BEETLES (Ips. spp.) - VIRGINIA - Killing loblolly and shortleaf pines at 5 locations in Waverly district. Caused death of 1-3 shortleaf pines at 5 spots in Halifax County and killed 1-2 shortleaf pines at 2 spots in Henry County. Responsible for death of several Virginia pines; killing 5 loblolly pines in Westmoreland County and several trees in Middlesex County. (Va. For. Pest Rpt., Aug. Summ.). OHIO - I. pini (pine engraver) collected in red pine plantation at Cambridge, Guernsey County; trees dying. (Share, Holdsworth).

WHITE-PINE WEEVIL (Pissodes strobi) - VIRGINIA - Activity about same as in 1964 in Shenandoah County; widespread and severe in Frederick County. Noted in Augusta and Rockbridge Counties. Scattered damage noted throughout Salem district; varies considerably. (Va. For. Pest Rpt., Aug. Summ.).

PALES WEEVIL (Hylobius pales) - VIRGINIA - Killed 20 percent of 4-acre plantation in Nelson County. (Va. For. Pest Rpt., Aug. Summ.).

FULLER ROSE BEETLE (Pantomorus godmani) - CALIFORNIA - Adults heavy and damaging Norway spruce trees locally in Los Osos, San Luis Obispo County. (Cal. Coop. Rpt.)

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - VIRGINIA - Numerous in young loblolly pine plantings in Lunenburg and Amelia Counties. Evident in planted loblolly pine throughout Salem district; infesting 1-25 percent of seedlings. Adults widespread in planted loblolly pines in Page and Frederick Counties; active in shortleaf pines and pitch pine in Shenandoah County. Widespread on all young loblolly pine in Accomack and Northampton Counties; heavy in Caroline County plantings. (Va. For. Pest Rpt., Aug. Summ.).

JACK-PINE BUDWORM (Choristoneura pinus) - MICHIGAN - Seasonal larval defoliation of jack pine very heavy in Otsego, Montmorency, Crawford, Kalkaska, Oscoda, Alcona, Roscommon and Ogemaw Counties. Some tree mortality expected but most trees will recover. (Flink).

BAGWORM (Thyridopteryx ephemeraeformis) - VIRGINIA - Caused moderate defoliation of eastern white pines at several locations in Fauqier County; evident in numerous spots in Lunenburg County. (Va. For. Pest Rpt., Aug. Summ.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - MICHIGAN - Scattered larval infestations reported during season in many Upper Peninsula and northern Lower Penisula counties. Increase over 1964 probably indicates buildup. Inspection of plantations urged. (Flink). VIRGINIA - Found on 4 acres of loblolly and shortleaf pines in Farmville district. Larvae active and caused light defoliation on single pitch pine in Bland County. Active on shortleaf pines planted in Wise County; caused light defoliation. (Va. For. Pest Rpt., Aug. Summ.). NORTH CAROLINA - Larvae feeding on some pine seedlings locally in Stokes County. (Scott, Mount).

SPRUCE BUD SCALE (Physokermes piceae) - IDAHO - Damaging Douglas-fir in Moscow. (Portman, O'Keefe). MINNESOTA - Quite frequently found on Colorado and Black Hills spruce trees during season; found in nursery row, but more common on older trees in established plantings. (Minn. Ins. Rpt., Sept. 24).

MITES - IDAHO - Oligonychus ununguis (spruce spider mite) damaging Douglas-fir in Moscow. (Portman, O'Keefe). NORTH DAKOTA - Undetermined spider mites damaged evergreens in Bismarck. (Frye). MICHIGAN - Adults and nymphs of undetermined species caused feeding injury to needles of red pine in northern Lower Peninsula; condition especially noticeable in frosty locations; probably important factor in poor growth in area. (Wallner, Flink).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEW MEXICO - Damage to elms light in Rio Arriba County. (N. M. Coop. Rpt.). OKLAHOMA - Damage to elms continues in many areas. (Okla. Coop. Sur.). VIRGINIA - Widespread and causing moderate defoliation of American elms in Frederick and Clarke Counties. Va. For. Pest Rpt., Aug. Summ.).

TWIG GIRDLER (Oncideres cingulata) - ALABAMA - Considerable amount of twigs of hickory falling from girdling by adults in Lee, Coosa, Calhoun, Clay and Talladega Counties. (Barwood).

LOCUST BORER (Megacyllene robiniae) - IDAHO - Heavy emergence and flight noted in Pocatello. (Mylroie). OKLAHOMA - Adults emerged and active in Payne County. (Okla. Coop. Sur.).

BOXELDER BUG (Leptocoris trivittatus) - COLORADO - Nymphs and adults abundant on boxelder trees in Fort Collins; movement into homes expected soon. (Simpson). NEW HAMPSHIRE - Adults and nymphs heavy on dying maple at Hollis. (Sutherland, Sept. 23).

LACE BUGS (Corythucha spp.) - MARYLAND - C. cydoniae (hawthorn lace bug) heavy on hawthorn at Bethesda, Montgomery County. (U. Md., Ent. Dept.). OHIO - C. ciliata (sycamore lace bug) and Erythroneura spp. (leafhoppers) causing damage to sycamore leaves in Columbus, Franklin County. (Davidson).

FALL WEBWORM (Hyphantria cunea) - NEW MEXICO - Medium to heavy on poplar, cottonwoods and other trees; defoliation heavy on some trees. (N. M. Coop. Rpt.). COLORADO - Noted on cottonwoods and willows in Mesa County. (Hantsbarger). VIRGINIA - Widespread on sweetgum, black gum, sourwood and white oaks; single trees involved with slight defoliation in Nansemond and Isle of Wight Counties. (Va. For. Pest Rpt., Aug. Summ.).

ORANGE-STRIPED OAKWORM (Anisota senatoria) - VIRGINIA - Medium on ash tree in Henry County. (Isakson, Helland, Sept. 23).

GYPSY MOTH (Porthetria dispar) - The following table shows the percent defoliation by State caused by gypsy moth as determined by 1965 survey.

Acreage Defoliated by Gypsy Moth - Summer 1965

State	75 percent or less	75-100 percent	Total
Maine	72	118	190
New Hampshire	6,235	2,216	8,451
Vermont	2,385	518	2,903
Massachusetts	15,907	1,325	17,232
Rhode Island	50	--	50
Connecticut	72,353	13,656	86,009
New York	77,315	71,051	148,366
Totals	174,317	88,884	263,201

(PPC, East. Reg.).

VARIABLE OAK LEAF CATERPILLAR (Heterocampa manteo) - OKLAHOMA - Heavy on oaks in Oklahoma City area, Oklahoma County. Unusually light in southeast area. (Okla. Coop. Sur.).

COTTONY-CUSHION SCALE (Icerya purchasi) - CALIFORNIA - Medium on liquidambar trees in nursery in Chula Vista, San Diego County. (Cal. Coop. Rpt.).

EUROPEAN ELM SCALE (Gossyparia spuria) - COLORADO - Heavy and killing limbs on elms in Wray, Yuma County. (Hantsbarger).

TULIPTREE SCALE (Toumeyella liriodendri) - OHIO - Heavy locally on yellow-poplar trees near Logan, Hocking County. Producing crawlers. (Burns).

AN APHID (Myzocallis elegans) - UTAH - Heavily infested elm foliage (probably Ulmus laevis) at Logan, Cache County, during summer; infestation now low. This is a new State record. Det. as Tinocallis platani by Dr. V. F. Eastop. Three species of lady beetles, syrphid fly larvae and green lacewing larvae moderately numerous. (Knowlton).

POPLAR PETIOLE GALL APHID (Pemphigus populitransversus) - CALIFORNIA - Adults and nymphs heavy on poplar trees in Livingston, Merced County. (Cal. Coop. Rpt.).

A SYNTOMID MOTH (Syntomeida epilais jucundissima) - FLORIDA - Larvae moderately damaged leaves of oleander in nursery at Leesburg, Lake County. (Bentley).

LEAF CRUMPLER (Acrobasis indigenella) - ALABAMA - Heavy locally on pyracantha; caused considerable damage to isolated plants in Mobile County. (Seibels).

AZALEA CATERPILLAR (Datana major) - FLORIDA - Larvae severely damaging azaleas at Leesburg, Lake County. (Felshaw).

AZALEA LACE BUG (Stephanitis pyrioides) - FLORDIA - Adults and nymphs localized and severely damaging leaves of azalea in garden center at Tampa, Hillsborough County. (Hale, Sept. 20).

A WEEVIL (Brachyrhinus cribricollis) - CALIFORNIA - Medium on saxifraga in Fresno, Fresno County. (Cal. Coop. Rpt.).

APHIDS - UTAH - Pterocomma spp. infesting twig bark of weeping willow and other willows in several areas of Salt Lake County. (Knowlton, Burningham). P. smithiae infested weeping willow twig bark at Brigham City, Box Elder County. Lachnus salignus spottedly present on some species of willow. Periphyllus lyropictus (Norway-maple aphid) continues heavy on Norway maples at Salt Lake City but trees less sticky than in summer. (Knowlton). COLORADO - Various species increasing on shrubs in Fort Collins. (Simpson). MARYLAND - Stegophylla sp. injuring foliage of pin oak at Bryans Road, Charles County. (U. Md., Ent. Dept.).

FLORIDA - Adults of Cerataphis variabilis generally infesting leaves of Chinese fan palm in nursery at Davie, Broward County. (Shirah, Sept. 23).

CRAPEMYRTLE APHID (Myzocallis kahawaluokalani) - CALIFORNIA - Medium on crapemyrtle in Redding, Shasta County. (Cal. Coop. Rpt.). FLORIDA - Adults and nymphs localized and severely damaging leaves of crapemyrtle in nursery at Leesburg, Lake County. (Bentley).

OLEANDER APHID (Aphis nerii) - CALIFORNIA - Medium on Asclepias fascicularis on railroad property in Yuba City, Sutter County. (Cal. Coop. Rpt.).

COTTONY MAPLE SCALE (Pulvinaria innumerabilis) - NORTH CAROLINA - Infested several boxwoods in Rockingham County. (Flynt, Mount).

TEA SCALE (Fiorinia theae) - NORTH CAROLINA - Infested camellias in Sampson County. (Futrell, Mount).

Coccids in Florida - All stages of Ceroplastes ceriferus taken on stem of sumac at Bushnell, Sumter County. (Holder, Sept. 23). All stages of Asterolecanium pustulans moderately to severely damaging stem of Euphorbia marginata at Grant, Brevard County. (Levan, Sept. 23) These are new host records for Florida Division of Plant Industry. (Fla. Coop. Sur.). All stages of Saissetia oleae (black scale) severely damaging leaves of fiddleleaf fig in greenhouse at Apopka, Orange County. (Musgrove, Sept. 17). All stages of C. floridensis (Florida wax scale) moderately damaging stem and leaves of English-laurel and all stages of Coccus elongatus localized and moderately damaging stem of Mimosa sp. in nursery at Leesburg, Lake County. (Bentley). Phenacoccus gossypii (Mexican mealybug) severely damaged stem and leaves of copperleaf in garden center at Tampa, Hillsborough County. (Hale, Sept. 20). Phenacaspis cockerelli adults moderately damaging leaves of Bischofia javanica in nursery at Fort Lauderdale, Broward County. (Clinton, Sept. 23). Orthezia insignis (greenhouse orthezia) localized and moderately damaging ardisia at Lady Lake, Lake County. (Bentley, Sept. 9). Aspidiella sacchari lightly damaging stem of Phoenix roebelenii in nursery at Fort Myers, Lee County. (Walsh, Sept. 22). All stages of Fiorinia theae (tea scale) severe on leaves of Camellia sasanqua at Kissimmee, Osceola County. (Kipp, Sept. 22).

A GALL MIDGE (Uleella pisonifolia Felt) - FLORIDA - Collected from galls on Pisonia aculeata by F. C. Craighead March 3, 1961, at Bear Lake Road, Everglades National Park. Det. by R. Gagné. This is a new United States record and the first record from continental North America. (Mead). Species described from P. nigricans in 1912 from St. Vincent Island. (ARS).

INSECTS AFFECTING MAN AND ANIMALS

HORN FLY (Haematobia irritans) - OKLAHOMA - Averaged 50 per head on cattle in Payne County; reported moderate in Noble, Mayes, Cleveland and Bryan Counties. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Ranged 1-2 per head on cattle checked in Payne County. (Okla. Coop. Sur.).

HORSE FLIES (Tabanus spp.) - OKLAHOMA - Populations moderate on cattle in Choctaw County. (Okla. Coop. Sur.).

HORSE BOT FLY (Gasterophilus intestinalis) - OKLAHOMA - Numerous about horses in Payne County; causing considerable irritation. (Okla. Coop. Sur.).

HOUSE FLY (Musca domestica) - WYOMING - Adults causing concern to homeowners in Laramie and Goshen Counties. (Marks). UTAH - Recent frosts caused reduction of populations in many localities; however, numbers again increasing moderately. (Knowlton).

FACE FLY (Musca autumnalis) - UTAH - Annoying horses at Lewiston, Cache County. (Knowlton).

SOUTHERN BUFFALO GNAT (Cnephia pecuarum) - OHIO - Probably this pest, reported annoying horses in Cleveland area of Cuyahoga County. (Bartlett, Holdsworth).

BED BUG (Cimex lectularius) - IDAHO - Light infestation observed in house at Coeur d'Alene, Kootenai County. (Stranahan).

PUSS CATERPILLAR (Megalopyge opercularis) - SOUTH CAROLINA - First of season reported in Hampton County. (Nettles et al., Sept. 28). NORTH CAROLINA - Caused some concern in Edgecombe County. (Perry, Scott).

MOSQUITOES - NEW HAMPSHIRE - Culex pipiens adults moving into homes in numbers. (Mason, Sept. 22). WISCONSIN - Mosquitoes reported severe in woodland areas during warm periods. Heavy rains during past few weeks probably responsible for heavy populations as much water provides breeding areas. (Wis. Ins. Sur.). OKLAHOMA - Adult populations of several species heavy in some areas of Bryan County. (Okla. Coop. Sur.). LOUISIANA - Larval collections in Jefferson Parish during week ending September 24 contained Aedes sollicitans (salt-marsh mosquito), Culex pipiens quinquefasciatus (southern house mosquito), C. salinarius, C. territans, Psorophora confinnis, Uranotaenia sapphirina. Total of 17,922 adults collected in 16 light traps operated during same period in parish; increase in numbers of freshwater, floodwater species, mainly P. confinnis, noted following Hurricane Betsy. Culex nigripalpus recorded for first time in Jefferson Parish. (Stokes). Larval collections in Jefferson Parish during week ending October 1 contained A. sollicitans, C. p. quinquefasciatus, C. salinarius, C. territans, P. confinnis, U. sapphirina, Anopheles quadrimaculatus and Anopheles crucians. Light trap collections of adult mosquitoes decreased during same period due to unseasonably cool weather. (Jeff. Parish, Dept. Mosq. Contr.). FLORIDA - Adults of Aedes sp., probably infirmatus, Anopheles crucians and Anopheles quadrimaculatus (common malaria mosquito) collected in doghouse at Gainesville, Alachua County, September 30. (O'Berry). Approximately 50 percent of Anopheles spp. and all Aedes spp. showed signs of blood meals. (Mead). NORTH CAROLINA - Larvae and adults of Aedes aegypti (yellow-fever mosquito) abundant around Kernersville, Forsyth County. (Ashton).

TICKS - ALABAMA - Heavy, widespread infestations of unspecified species occurring throughout city of Mobile and Mobile County; annoying dogs and humans; reported plentiful in homes. (Deakle). OKLAHOMA - Amblyomma americanum (lone star tick) ranged 0-10 (average less than 1) per head on cattle in Atoka County; only nymphs observed. Rhipicephalus sanguineus (brown dog tick) reported heavy on dogs in Payne County. (Okla. Coop. Sur.). VIRGINIA - R. sanguineus numerous on dog and around doghouse in yard in Mathews County. (Isakson, Dinwiddie, Sept. 28).

BLACK WIDOW SPIDER (Latrodectus mactans) - UTAH - Numerous reports received during past 3 weeks concerning this pest about homes in Salt Lake City area and in Salt Lake County. (Burningham, Knowlton). Single specimen found in one home and several specimens found about foundation and in yard of another home at Logan, Cache County. (Knowlton).

HOUSEHOLD AND STRUCTURAL INSECTS

BOXELDER BUG (Leptocoris trivittatus) - UTAH - Heavy numbers entering several homes in area about Bear Lake, Rich County. (Knowlton). WYOMING - Entering homes and causing concern in Torrington, Goshen County, and in Pine Bluffs, Laramie County. (Marks). MICHIGAN - Very few complaints from homeowners concerning this pest. (Janes).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OKLAHOMA - Reported entering homes to hibernate in Kay, Noble, Pawnee and Payne Counties. (Okla. Coop. Sur.).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - OHIO - Moving into houses and other buildings over much of State. (Craine, Scheetz, Delaplane).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - NORTH CAROLINA - Caused concern to numerous homeowners in many areas of Yadkin County. (Smith, Scott).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - OKLAHOMA - Infested stored products in Payne County home. (Okla. Coop. Sur.).

FIELD CRICKETS (Gryllus spp.) - OKLAHOMA - Large numbers continue to move into buildings in some areas of State. (Okla. Coop. Sur.).

EUROPEAN EARWIG (Forficula auricularia) - COLORADO - Reported in home in Fort Collins, Larimer County. This is a new county record. (Hoerner).

MUSHROOM MITE (Tyrophagus putrescentiae) - CALIFORNIA - Adults heavy in and on refrigerator in home in San Diego, San Diego County. Species not so prevalent as in 1964. (Cal. Coop. Rpt.).

CENTIPEDES - WISCONSIN - Very numerous in homes; present in basement and ground floor areas. (Wis. Ins. Sur.).

MILLIPEDS - NEVADA - Moving into homes and causing concern to homeowners at north end of Lake Tahoe, Washoe County. (Coop. Rpt.).

STORED-PRODUCT INSECTS

Stored-Product Insects in Maryland - Large storage of barley on farm near Clarksville, Howard County, heavily infested with varying numbers of Cryptolestes pusillus (flat grain beetle), Sitophilus granarius (granary weevil), Rhyzopertha dominica (lesser grain borer), Pyralis farinalis (meal moth) and Tribolium castaneum (red flour beetle). (Bissell, Sept. 28).

INDIAN-MEAL MOTH (Plodia interpunctella) - IDAHO - This pest and assorted bran bugs caused severe damage to stored corn at Buhl, Twin Falls County. (Peay). UTAH - Infesting grocery store near Salt Lake City. (Knowlton).

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - WYOMING - Large numbers of larvae found in popcorn shipped in from out of State and sold in grocery store at Laramie, Albany County. (Robb).

BENEFICIAL INSECTS

LADY BEETLES - MICHIGAN - Adults of various species ranged 1-14 and averaged 5.8 per 10 sweeps in total of 18 alfalfa fields in Eaton, Ionia, Clinton, Ingham, Jackson, Monroe and Livingston Counties. (Dowdy, Sept. 21, 24, 28).

DAMSEL BUGS - MICHIGAN - Adults ranged 0-20 (averaged 6.6) and nymphs ranged 0-6 (averaged 1.4) per 10 sweeps in total of 18 alfalfa fields in Eaton, Ionia, Clinton, Ingham, Jackson, Monroe and Livingston Counties. (Dowdy, Sept. 21, 24, 28). ARKANSAS - Nabis spp. only beneficial insects active on alfalfa in northwest. (Ark. Ins. Sur.).

A RHIPICERID BEETLE (Sandalus sp.) - KANSAS - Adults found on elm trees in Manhattan. Larvae are parasitic on cicadas. (Blocker, Heinrichs).

Beneficial Insects in Cotton - CALIFORNIA - Most beneficial species present in Imperial County cotton, depending upon treatments applied to fields. (Campbell, Sept. 23). Lacewings, melyrid beetles (Collops spp.) and anthocorid bugs very abundant in most cotton checked in San Joaquin Valley; anthocorid bugs very abundant where mite activity high. Pest populations appear quite low where predators highly abundant. Parasites common where aphids evident. (Leigh, Sept. 23).

MISCELLANEOUS INSECTS

EUROPEAN MANTIS (Mantis religiosa) - WASHINGTON - Numerous specimens collected by high school students during fall of 1964. Det. by A. B. Gurney. Reported as quite numerous in Spokane area of Spokane County. Apparently was introduced prior to 1964, as reports indicate the species has been observed earlier. This is a new State record. (Telford).

GIANT HORNET (Vespa crabro germana) - INDIANA - Collected in Clark County. This is the third collection in the State and a new county record. (Huber).

GYPSY MOTH (Porthetria dispar) - NEW JERSEY - Adult males were trapped in Burlington, Camden, Middlesex, Monmouth and Ocean Counties. These are new county records. (PPC East. Reg., Aug. Rpt.).

DERMESTID BEETLES - TEXAS - Large numbers found in mink cages in Titus County. (Neal).

CORRECTIONS

CEIR 15(39): 1128 - EUROPEAN HORNET (Vespa crabro germana) - INDIANA - Note should read as follows: Single specimen taken June 29 by E. Saugstad from house trailer on western edge of New Albany, Floyd, County. This is a new State record. (Chandler, Aug. 20). Additional specimen taken in Washington County. (Chandler, Sept. 17).

ADDITIONAL NOTES

ARIZONA - THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) continues to increase in alfalfa in Yuma, Graham, Maricopa, Cochise and Pinal Counties; heavy damage in many areas reduced yields. CORN EARWORM (Heliothis zea) increasing in Yuma County alfalfa; averaged 70 per 100 sweeps. SORGHUM MIDGE (Contarinia sorghicola) severe on late-planted sorghums and caused heavy damage to grain heads in Cochise County. Light on earlier planted sorghums. A WHITEFLY (Aleurocybotus occiduus) continues to necessitate treatments in Bermuda grass seed fields in Roll area of Yuma County. BEET ARMYWORM (Spodoptera exigua) increasing on lettuce in Yuma and Maricopa Counties; infestations light but show indications of increasing to economic proportions in near future. A FLEA BEETLE (Systena sp.) causing moderate to heavy damage to lettuce in Yuma County; light on lettuce in Maricopa County. CABBAGE LOOPER (Trichoplusia ni) causing light to moderate damage to vegetables in Yuma and Maricopa Counties; some controls necessary. Adults of a GRASSHOPPER (Schistocerca vaga) migrating into lettuce in Yuma County; causing light damage to some fields. BOLLWORM (Heliothis zea) infestations decreasing in central area cotton; continue light in Graham, Cochise and Yuma Counties. Some controls used in Maricopa, Pinal, Pima and Yuma Counties. Small number of economic infestations of COTTON LEAF PERFORATOR (Bucculatrix thurberiella) continue on cotton in Pima and Yuma Counties; some controls necessary. SALT-MARSH CATERPILLAR (Estigmene acrea) increasing and damage to cotton apparent in areas of Pima, Pinal, Maricopa and Yuma Counties; light infestations appearing in Graham and Cochise Counties. New infestations of PINK BOLLWORM (Pectinophora gossypiella) continue to be found in cotton in Safford area of Graham County; infestations also found in Marinette, north Buckeye and Little Rainbow Valley areas of Maricopa County. Populations of a PUNCTURE-VINE SEED WEEVIL (Microlarinus lareynii) found in Blackwater-Florence area of Pinal County and in Safford Valley area of Graham County. (Ariz. Coop. Sur.).

LIGHT TRAP COLLECTIONS

	Temperature °F	Precipitation (inches)	Type of trap (BL = blacklight, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Choristoneura fumiferana (spruce budworm)	Estigmene acrea (salt marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	Ir zea (bollworm, corn earworm, tomato fruitworm)	Laxocatege comstitalis (Gilkia webworm)	Laxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Pectinophora gossypiella (pink bollworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tobacco hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
KANSAS																							
Garden City 9/23-25			BL			3																	
Hays 9/4,16,23			BL			4																	
MASSACHUSETTS																							
East Wareham 9/8-14			2BL								108								45				
MISSISSIPPI																							
Stoneville 9/24-30	43-82	0.18	2BL	60			4		166	3	1476					157	1		88	291	145	104	
Rolling Fork 9/24-30	44-86	0.60	BL	6			1		117	25	874				1	206		8	51	447	162	304	
Tunica 9/24-30	41-80	0.55	BL	10			3		786	22	899				9	106		4	48	244	119	119	
MICHIGAN (Counties)																							
Berrien 9/27-10/1			BL	12							9			5	4	6			11			11	
Branch 9/27-10/1			BL	8							8			6	3	4			27			2	
Kalamazoo 9/27-10/1			BL	2							3			2	4	2			7			2	
Jackson 9/27-10/1			BL	12							92			3	13	4			37			6	
Livingston 9/27-10/1			BL	19							52			6	11	2			49			7	
Ionia 9/27-10/1			BL	7							62			7	13	3			17			5	
Saginaw 9/27-10/1			BL	4							34			6	2	3			14			4	
Ogemaw 9/27-10/1			BL	4							10			0	5	1			17			1	
Newaygo 9/27-10/1			BL	9							24			4	7	5			23			7	
NEBRASKA																							
Bushnell 9/11-17				13		84					12				15				15		2		
Bushnell 9/18-24				1		17									1		2		4				
Chappell 9/14-20				9		10					3				5	2			3		2		
North Platte 9/15-21				29		33					6				4	1			36		12		
North Platte 9/22-28				77		574					6				33				96		2		
Ogallala 9/13-21				2		5					1				1				1				
Scotts Bluff Expt. Sta. 9/11-17				2		16		1				spp. 14			4				1				
Scotts Bluff Expt. Sta. 9/18-24				4		21									2				2				
OHIO (Counties)																							
Licking 9/24-30			BL	2							29					3			11				
Wayne 9/24,27,-29			BL	3				10			41				4	2			6				
Franklin 9/26-29			BL	5				6			97				6	7			9		6		
SOUTH CAROLINA																							
Clemson 9/11-17			BL	7					6		44				5	153		2	23		201		
Clemson 9/18-24			BL						1		88				5	175			24		159	8	
Charleston 9/20-26	60-91	0.81	BL	7			0		7	1	76				0	0	0	7	6		7	0	
TENNESSEE (Counties)																							
Robertson 9/21-27				4					4		124				8	24		4	4		4		
Cumberland 9/21-27									24		241					32			24				
Knox 9/21-27				8					8		28				4	8		2	20				

LIGHT TRAP COLLECTIONS

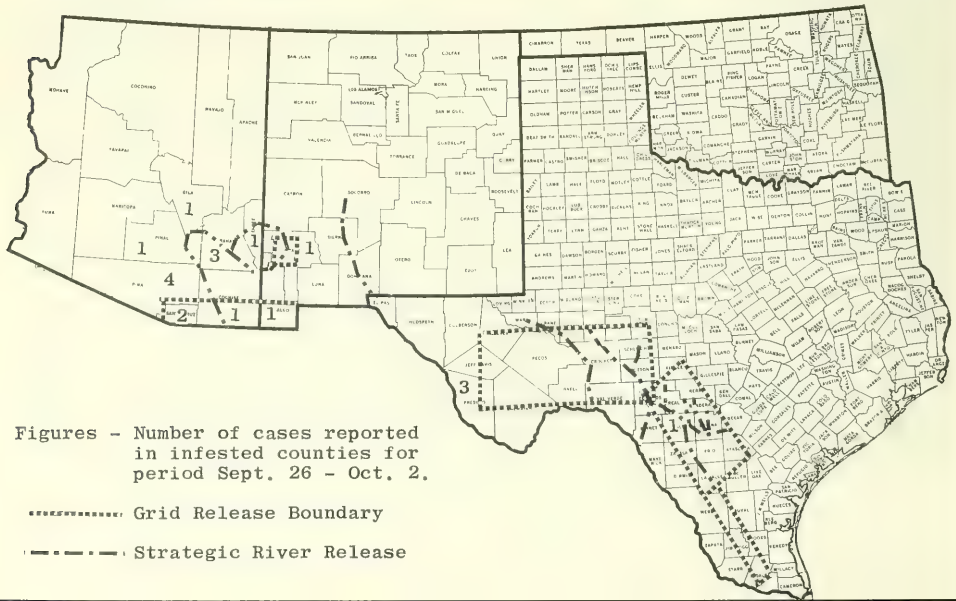
	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, M = incandescent, O = mercury vapor, other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chortagrotis auxiliaris (grey cutworm)	Euliscoma grea (fall armyworm)	Feronia diffusa (sweet potato armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commistalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Omiodes indicata (sugarcane leaf roller)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera ornithogalli (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
TEXAS																							
Waco 9/25-10/1			BL	4			3		98	18	93					44	29			30	8	13	48
WISCONSIN																							
De Forest 9/21-27			BL								33				0	6				8			
Hancock 9/23-26			BL	2							8				0	0				7			
Madison 9/24-30			BL	33							75				0	21				67			
Middleton 9/24-30			BL	0							29				0	7				4			
WYOMING																							
Cheyenne 9/13-19				9		159										14				29			
Laramie 9/1-7						14										1				6			
Laramie 9/8-14				3		40														9			

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period September 26 - October 2 a total of 19 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Presidio 3, Uvalde 1; NEW MEXICO - Grant and Hidalgo 1 each; ARIZONA - Graham 3, Pima 4, Santa Cruz 2, Greenlee, Pinal, Gila and Cochise 1 each. The Republic of Mexico reported 334 cases; Territorio sur de Baja California 47, Coahuila 25, Veracruz 14, Sonora 92, Chihuahua 46, Durango 66, Tamaulipas 5, San Luis Potosi 7, Mexico 4, Chiapas 9, Oaxaca, Jalisco and Guerrero 3 each; Baja California, Puebla and Yucatan 2 each; Nuevo Leon, Morelos, Hidalgo and Michoacan 1 each. Sterile screw-worm flies released: Texas 18,566,250, New Mexico 5,820,000, Arizona 18,534,000 and the Republic of Mexico 57,844,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	578	3906	142	5309	407.04	73.57
1964	5	112	122	4703	4.09	2.38
1965	19	781	44	3981	43.18	19.61
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	203	2727	16	1540	1268.75	177.07
1965	236	4115	46	1812	513.04	227.09
Table 3. Specimens determined in Mexico south of Barrier Zone.						
1965	116					

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



HAWAIIAN INSECT NOTES

The following notes on Hawaii insect conditions were presented at the meeting of the Hawaiian Entomological Society held in September 1965.

Large numbers of adults of a NOCTUID MOTH (Phlegetonia delatrix (Guenee)) were reported on Vitex trifolia plants along the shoreline at Mana, Kauai, by Stephen Au. This constitutes a new county record as well as a new island record. (Mabel Chong). P. delatrix was reported for the first time from Hawaii in CEIR 15(26):704. (PPC).

A PTEROMALID WASP (Spalangia endius Walker), introduced from California in October 1964 to aid in control of Musca domestica L. (house fly), is now established in Ewa, Oahu. Specimens reared from M. domestica puparia collected April 28, 1965, were determined by B. D. Burks. (Mabel Chong).

A CERAMBYCID BEETLE (Plagiohammus spinipennis Thomson) - Recovery of 5 adults of this beetle at night was reported by Dr. Ken Harley at Kukui Paddock in August 1965. This is the first record of field adults in the State. (C. J. Davis). Originally introduced into State in April 1960 for control of lantana. (PPC).

A LEAF MINING HISPID (Uroplata girardi Pic) was recovered for the first time on Mt. Tantalus on September 13, 1965, by Maurice Hironaka. This confirms an earlier finding reported by Dr. J. W. Beardsley. Considerable mining and feeding damage on lantana was observed and adults were present. This beetle was introduced from Brazil in 1961 and is well established in Lawai Valley, Kauai. (C. J. Davis).

A WEEVIL (Brachyrhinus cribricollis (Gyll.)) was reported established on Maui by Nobuo Miyahira. Damage by this weevil reported by a commercial flower grower in Upper Kula (4,000 feet elevation) to leaves, flower buds and blossoms of chrysanthemum was confirmed by Mr. Miyahara. Approximately 40 percent of flower buds were damaged. Specimens were confirmed by Miss Mabel Chong. This is the first report of this pest on Maui and is a new record for Maui County. This weevil was previously known in the State only from Kamuela, Hawaii, where it was discovered in June 1960. (Haw. Ent. Soc. Proc. 18(1): 24, 189). (C. J. Davis).

Several adults of an ANTHRIBID BEETLE (Araeocorynus cumingi Jekel) were intercepted in a shipment of Mucuna sp. seeds in mail destined for out of State on August 25, 1965. G. Fukumura and S. Matayishi, State inspectors, were positive the seeds originated from the island of Hawaii, although the exact locality is unknown. This constitutes a new record for the island of Hawaii as well as a new record for Hawaii County. (E. S. Shiroma).

A specimen of an ARMORED SCALE (Neopinnaspis harperi McKenzie) was intercepted on avocado (Persea sp.) fruit in ship's stores from Hawaii (probably Oahu) on June 13, 1963, at Seattle, Washington. This is the second report of the occurrence of this scale in Hawaii and constitutes a new host record. Dr. J. W. Beardsley first reported this armored scale at the February 1965 meeting of the Hawaiian Entomological Society as being collected on Gouldia terminalis. (See CEIR 15(11):182). Determination was by R. F. Wilkey. (E. S. Shiroma).

A heavy larval infestation of a PHYCITID MOTH (Cryptoblabes aliena Swezey) was present in experimental sweet corn plots at the Waimanalo Experiment Station on Oahu. The larvae had spun fine silken tunnels and were feeding on pollen in the tassels on which webbing was plainly evident. Although the larvae were abundant, they did not appear to reduce pollination. This moth was first reported by Dr. O. H. Swezey in 1905 and damage to sweet corn was reported by him in 1906. The planting at Waimanalo was also heavily infested with Peregrinus maidis (Ashmead) (corn planthopper). Similar conditions were reported by Swezey in 1906. (W. C. Mitchel).

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Maryland (State or District) DURING 1964 (Year)

ATTACKING Soybeans (Commodity or Crop)

A. Pest or pest complex: Thrips, spider mites, bean leaf beetle, Mexican bean beetle, corn earworm.

B.	Number of acres [a] produced	(From CRS)	No. 239,000
C.	Average yield per acre [a]	(From CRS)	Units/ 17.5 bu.
D.	Price[b] per unit (bu.)[c]	(From CRS)	$/ 2.60
E.	Acres [a] needing control		No. 40,000
F.	Acres [a] treated		No. less than 1,000
G.	Reduction due to not treating where needed:		
H.	Loss in yield, percent		% 5
I.	Loss in yield, units per acre [a], C x H		Units/ 0.88 bu.
J.	Loss in yield, $ per acre [a], D x I		$/ 2.29
K.	Loss in quality, $ per ---- [a]		$/ -----
L.	Yield loss for all acres [a], (E-F) x I		Units 35,200 bu.
M.	Control cost, $ per ---- [a],		$/ ----
N.	Control cost for all ---- [a], F x M		$ ----
O.	Yield loss for all acres [a], (E-F) x J		$ 91,600
P.	Quality loss for all ---- [a], (E-F) x K		$ ----
Q.	Combined control cost and losses, N + O + P		$ 91,600 *

R. Percent loss due to each insect in the complex: Spider mites and bean beetles 50; others 50

Comment: * Estimate does not include loss from reduction in quality. Cost of control not considered since less than 1,000 acres were treated.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Wallace C. Harding, Jr.

Date June 22, 1965

ATTACKING Corn (for grain) (Commodity or Crop)

A. Pest or pest complex: Aphids, cutworms, root webworms, European corn borer, fall armyworm, corn earworm.

B.	Number of acres [a] produced	(From CRS)	No. 432,000
C.	Average yield per acre [a]	(From CRS)	Units/ 63 bu.
D.	Price[b] per unit (bu.)[c]	(From CRS)	$/ 1.30
E.	Acres [a] needing control		No. 120,000
F.	Acres [a] treated		No. 5,000
G.	Reduction due to not treating where needed:		
H.	Loss in yield, percent		% 10
I.	Loss in yield, units per acre [a], C x H		Units/ 6.3 bu.
J.	Loss in yield, $ per acre [a], D x I		$/ 8.19
K.	Loss in quality, $ per ---- [a]		$/ ----
L.	Yield loss for all acres [a], (E-F) x I		Units 724,500 bu.
M.	Control cost, $ per acre [a],		$/ 3.00
N.	Control cost for all acres [a], F x M		$ 15,000
O.	Yield loss for all acres [a], (E-F) x J		$ 941,850
P.	Quality loss for all ---- [a], (E-F) x K		$ ----
Q.	Combined control cost and losses, N + O + P		$ 956,850 *

R. Percent loss due to each insect in the complex:

Comment: * Estimate does not include loss from reduction in quality.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Wallace C. Harding, Jr.

Date June 22, 1965

CORN INSECT SURVEY IN INDIANA IN 1964

Ray T. Everly, Ralph A. Bram, David L. Matthew, Jr.
and Edward S. Saugstad
Purdue University

The fall corn insect survey in Indiana in 1964 indicated marked increases in all the insects covered by the survey. The European corn borer (Ostrinia nubilalis) populations almost doubled, the corn earworm (Heliothis zea) increased although not to the point of causing severe losses except in southern areas, and the corn leaf aphid (Rhopalosiphum maidis) was more abundant than in 1963, the year of heaviest infestation since it has been included in the survey. The Angoumois grain moth (Sitotroga cerealella) showed a decided increase with field infested corn found in the northern counties. Damage from bird feeding decreased slightly.

The yield of dent corn in Indiana dropped in 1964 from an average of 87 bushels per acre in 1963 to only 72 bushels in 1964. Yield estimates from observations in the surveyed fields indicated no areas of exceptional yield as were found in 1963. Good yields were observed in the north-northwest and north-north central, the south central and the south-southwest and south-south central areas. The excessive dry conditions of late summer resulted in earlier maturing of the corn plants so that the survey was started one week earlier to avoid loss of information due to early harvested fields. This extreme drought condition may also have contributed to the increased losses from insects, particularly the corn leaf aphid. Stalk rot was quite scarce although considerable breakage showed up later in the fall.

Bird damage was estimated in the same way as in 1963 (Everly and Matthew). Data from this phase of the survey are given in Table 1. Losses were reduced in all areas except the north-northwest where there was a slight increase. The rapid maturing of the ears due to the dry conditions may have made the corn less attractive to the birds. The greatest reduction occurred in the north-northeast area. Large reductions in losses occurred also in the south-southwest, south-south central and south-southeast areas. The average loss from bird feeding in Indiana in 1964 was 0.2 percent compared with 0.5 percent in 1963.

European corn borer populations are given in Table 2. Increases occurred in all areas except the southwest and south central ones, where they declined 8.2 and 9.1 borers per 100 plants respectively. The greatest increases occurred in the north-north central area, 102.4 borers per 100 plants in 1964 compared with 45.8 in 1963, and in the south-south central area, 119.2 in 1964 and 35.1 in 1963. Considerable increases also occurred in the northwest, north central and northeast areas. The average percent of plants infested in 1964 was 35.2, an increase of 10.5 percent over 1963. State populations per 100 plants increased to 59.7, more than double the 1963 population of 28.9. The average loss in grain corn was 1.8 percent in 1964, an increase of 0.7 percent over 1963.

Corn earworm populations, while showing increases in nearly all areas, were still at a subeconomic level. This is undoubtedly associated with the late appearance of large numbers of corn earworm moths. Data from 20 light traps throughout Indiana indicated that corn earworm moths did not occur with any regularity or abundance until August 10 in the southern half of the State, and as late as September 1, were never abundant in the northern half of the State. The abundance and losses from corn earworm are presented in Table 3, along with the dates of earliest appearance and continuous flights as determined from the light trap collections. The percent of fields in which corn earworm damage was found doubled over that of 1963, while the percent of plants infested increased from 2.0 in 1963 to 9.7 in 1964. Damage based on percent of kernels destroyed increased from 0.1 percent in 1963 to 0.3 percent in 1964. The light trap data on earliest appearance, continuous flight and average numbers caught, indicated that corn earworm populations built up in the extreme southwest part of the State and decreased more or less uniformly to the north and east.

The corn leaf aphid populations increased to a new high in Indiana in 1964 (Table 4). Practically every field surveyed (99.7 percent) had aphid infested plants. The plants infested increased from 53.8 percent in 1963 to 65.4 percent in 1964. All of this increase occurred in the severely and moderately infested plants. However, the increase in these two classes of infestation was not uniform throughout the State. In the north-north central area, this increase was from 3.2 percent to 16.0 for the severely infested plants and from 19.2 to 35.3 percent for the moderately infested plants. Similar major increases occurred in the areas where the heaviest losses were found, the north-northeast, north central and northeast areas. The greatest loss in yield, 24.4 percent, was found in the northeast area. This heavy loss in the northeast area was contributed by the high percent of barren plants (14.2) and the largest percentage of nubbin ears (20.4). In this area, considerable acreage was treated by airplane at tassel emergence. The northwest area, while showing the highest percent of plants infested (96.3), had little loss, as the infestation was restricted largely to lightly infested plants (86.5 percent). Undoubtedly, the severe drought conditions of late July and August augmented the losses associated with the corn leaf aphid infestation, as the severe drainage of plant juices by the feeding of the aphids while the plants were under more or less water stress, probably contributed to the increase of smaller ears and reduction in ear size of apparently normal ears. The average loss in yield in 1964 was 9.0 percent compared with 3.6 percent in 1963.

The Angoumois grain moth showed a wider distribution than in past years in Indiana although abundance was limited. Field infested ears were obtained in fields as far north as Porter, Kosciusko, and De Kalb counties. Field infestations were also found in Delaware, Gibson, Posey, Vanderburgh, Daviess, Jackson, Harrison, Floyd, Ripley and Ohio Counties. However, these southern infestations are normal and occur regularly except in years of severe low winter temperatures. Losses due to field infestations were minor except in the south-south central area, where a loss of 2.03 percent occurred. The average loss for the State in 1964 was 0.19 percent compared with less than 0.10 last year. Field infestations are usually never a source of great loss, and are of importance only as a source of infestation for developing populations when the corn is stored.

The summarization of losses, both in bushels and monetary value, are given in Table 6. These losses are based upon the yields of corn in each county for grain supplied by the Statistical Reporting Service, USDA. Since both European corn borer losses and corn leaf aphid losses are nonproduction losses, the gross area yields were corrected for these and the percent losses for all four insects applied directly to these corrected yields. For example, the gross yield reported for the north-northwest area was 42,549,800 bushels. In this area, the European corn borer and corn leaf aphid caused an estimated loss of 14.1 percent. Dividing the production by the compliment of 14.1 percent, we obtain an estimated yield of 49,534,100 bushels in the absence of these two insects. The percent losses from each of these insects was then applied to this expected yield to get the bushels lost from each. The total bushel loss in Indiana in 1964 was estimated at 48,471,000 bushels with a value of $55,741,700.

Table 1. Crop condition, ear size and bird damage. Fall corn insect survey, Indiana, 1964

Area	Counties	Fields	Yield estimate	Maturity a/	Ear Size b/	Bird Damage: Fields attacked	Bird Damage: Plants attacked	Bird Damage: Loss 1963	Bird Damage: Loss 1964
	No.	No.			No.	Pct.	Pct.	Pct.	Pct.
NNW	7	20	Good	Green-dry	690	25.0	9.8	.4	.6
NNC	5	12	Good	Green-dry	706	17.0	2.7	.6	.1
NNE	6	13	Fair	Green	660	46.0	7.7	1.4	.1
NW	6	16	Fair +	Green-dry	689	50.0	5.0	.3	.2
NC	8	16	Fair +	Green-dry	688	56.0	7.2	.1	.1
NE	10	19	Good -	Green-dry	710	32.0	4.0	.2	.0
SW	8	15	Fair	Green-dry	648	53.0	8.0	.5	.2
SC	7	11	Good	Green-dry	711	73.0	12.0	.3	.3
SE	9	18	Good -	Green	697	78.0	11.1	.9	.2
SSW	10	24	Good	Green-dry	730	17.0	3.5	.6	.1
SSC	8	13	Good	Dry	747	23.0	2.5	.6	.1
SSE	8	12	Fair +	Green-dry	692	25.0	4.3	.4	.0
AVERAGES									
NN	18	45	Good -	Green-dry	585	27.7	6.7	.8	.3
N	24	51	Fair +	Green-dry	696	46.0	5.4	.2	.1
S	24	44	Good -	Green-dry	685	68.0	10.4	.6	.2
SS	26	49	Good	Green-dry	723	21.7	3.4	.5	.0
West	31	75	Good -	Green-dry	689	35.0	6.6	.4	.3
Central	28	52	Good	Green-dry	713	42.2	6.1	.4	.2
East	33	62	Fair +	Green-dry	690	45.2	6.8	.7	.1
State	92	189	Good -	Green-dry	697	40.8	6.5	.5	.2

a/ Green-dry indicates dry leaves and stalks still green and succulent.
b/ Kernels per ear.

Table 2. European corn borer abundance and damage. Fall corn insect survey, Indiana, 1964.

Area	Fields infested		Plants infested		Borers per 100 plants		Loss	
	1963	1964	1963	1964	1963	1964	1963	1964
	Pct.	Pct.	Pct.	Pct.	No.	No.	Pct.	Pct.
NNW	100	95.0	58.6	53.1	72.5	93.6	2.2	2.9
NNC	100	100.0	44.8	58.0	45.8	102.0	1.4	3.1
NNE	80	69.2	25.6	33.5	46.4	51.8	1.4	1.6
NW	93	93.8	18.9	41.6	18.5	40.6	.6	1.2
NC	75	81.2	13.2	19.8	13.6	32.5	.4	1.0
NE	84	78.9	14.1	19.6	16.2	34.8	.5	1.1
SW	69	93.3	30.3	22.1	49.9	32.0	1.5	1.0
SC	54	72.7	18.9	9.8	18.2	11.8	.6	.4
SE	31	83.3	12.8	28.9	15.6	39.8	.5	1.2
SSW	100	100.0	35.5	46.3	62.4	95.8	1.9	2.9
SSC	100	92.3	30.7	51.7	35.1	119.2	1.0	3.6
SSE	100	100.0	30.9	38.3	34.5	62.7	1.0	1.9
Averages								
NN	93	88.1	43.0	48.2	42.8	82.5	1.7	2.5
N	84	84.6	15.4	27.0	23.0	36.0	.5	1.1
S	51	86.4	20.7	20.3	27.8	27.9	.9	.9
SS	100	97.4	32.4	45.4	22.1	92.6	1.3	2.8
West	90	95.5	35.8	40.8	45.1	65.5	1.6	2.0
Central	82	86.6	26.9	34.8	24.6	66.4	.8	2.0
East	74	82.8	20.8	30.1	17.2	47.3	.8	1.4
State	82	89.1	24.7	35.2	28.9	59.7	1.1	1.8

Note: The heaviest infested field was located in Daviess County (SSW) with 92% of the corn plants infested, 506 borers per 100 plants and an estimated loss of 15.2%.

Table 3. Corn earworm infestation and damage, and moth captures at light traps in area. Fall corn insect survey, Indiana, 1964.

Area	Fields infested		Plants infested		Loss		Moth captures		
	1963	1964	1963	1964	1963	1964	Earliest first capture	Earliest start of continuous flight	Average caught per day traps operated
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Date	Date	Number
NNW	0	35	0.	9.6	0.	.5	8/2	8/19	1.0
NNC	0	8	0.	4.0	0.	.4	8/10	none	.4
NNE	0	31	0.	5.5	0.	.1	8/4	8/24	.5
NW	67	56	2.4	8.0	.1	.1	7/2	8/21	2.3
NC	12	31	.5	2.2	.0	.0	7/6	8/22	2.5
NE	10	32	.2	5.7	.0	.1	7/25	8/24	1.0
SW	25	80	6.2	17.6	.2	.4	5/27	8/13	2.2
SC	14	64	1.4	10.9	.0	.2	----	----	---
SE	0	72	0.	13.8	0.	.3	8/3	8/12	3.6
SSW	40	75	2.4	14.8	.0	.4	5/3	7/20	16.3
SSC	57	62	8.4	12.0	.3	.2	4/30	8/11	12.3
SSE	44	58	3.3	12.7	.1	.4	5/20	8/25	3.4
Averages									
NN	0	25	0.	6.4	0.	.2	8/2	8/19	.6
N	30	40	1.0	5.3	.0	.1	7/2	8/21	1.6
S	13	72	2.5	14.1	.1	.3	5/27	8/12	2.9
SS	47	65	4.7	13.2	.1	.3	4/30	7/20	10.7
West	33	62	2.8	12.5	.1	.4	5/3	7/20	7.3
Cent.	21	41	2.6	7.3	.1	.2	4/30	8/11	5.1
East	14	48	.9	9.4	.0	.3	5/20	8/12	2.1
State	23	50	2.0	9.7	.1	.3	----	----	---

Table 4. Corn leaf aphid abundance and damage. Fall corn insect survey, Indiana, 1964.

Area	Fields infested		Plants infested		Infestation			Damage								Losses	
								Barren plants				Nubbin ears					
	1963	1964	1963	1964	Severe	Moderate	Light	Severe	Moderate	Light	None	Severe	Moderate	Light	None	1963	1964
	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
NNW	100	100	64.0	70.0	5.2	26.4	39.0	1.0	1.4	.5	0.	2.6	9.2	4.6	0.	4.1	11.2
NNC	90	100	65.6	83.0	16.0	35.3	31.7	2.3	1.7	.3	0.	9.0	11.7	3.7	.7	3.9	16.5
NNE	90	100	53.6	81.9	12.6	43.1	26.2	2.7	1.2	0.	0.	5.2	17.2	2.2	.6	2.3	17.2
NW	100	100	66.9	96.3	1.6	8.2	86.5	---	---	---	---	---	---	---	---	1.0	4.5
NC	100	100	62.1	66.7	11.5	29.0	26.2	6.2	.5	0.	0.	4.5	9.5	1.2	0.	.3	14.3
NE	100	100	43.6	70.7	22.5	31.2	17.0	10.1	2.5	.6	0.	7.8	10.9	1.7	.2	.5	24.4
SW	85	100	58.2	82.7	.3	9.1	73.3	---	---	---	---	---	---	---	---	8.7	4.0
SC	82	100	54.9	42.1	7.6	18.9	15.6	1.4	0.	0.	0.	8.4	1.8	0.	0.	7.9	6.5
SE	100	100	62.4	28.5	3.6	12.7	12.2	---	---	---	---	---	---	---	---	4.9	1.0
SSW	88	96	39.5	48.5	7.3	14.0	37.2	1.0	0.	.3	.2	1.7	1.7	.7	.2	8.8	3.0
SSC	78	100	36.0	58.8	5.5	10.2	43.1	2.1	.6	.9	0.	0.	.9	.6	0.	.0	4.3
SSE	82	100	39.6	55.4	1.7	9.0	44.7	.3	.7	1.0	2.3	.7	1.0	1.3	.3	.9	1.4
Averages																	
NN	94	100	61.1	78.5	11.3	34.9	32.3	2.0	1.1	.3	0.	5.6	12.7	3.5	.4	3.8	15.0
N	100	100	57.5	77.9	11.9	22.8	43.2	8.2	1.5	.3	0.	6.2	10.2	1.4	.1	.6	14.4
S	90	100	58.4	51.1	3.7	13.6	33.7	---	---	---	---	---	---	---	---	7.2	3.8
SS	84	99.3	36.7	54.2	4.8	11.1	38.3	1.1	.4	.7	.8	.8	1.2	.9	.2	3.2	2.9
West	93	99	57.3	74.5	3.6	14.4	56.5	1.0	.7	.4	.1	2.2	5.4	2.6	.1	5.0	5.7
Central	89	100	53.8	62.8	10.2	23.4	29.2	3.0	.7	.6	0.	5.5	6.0	1.4	.2	3.0	10.4
East	95	100	50.6	59.1	10.1	24.0	25.0	4.4	1.5	.5	.8	4.6	9.7	1.7	.4	2.2	11.0
State	93	99.7	53.9	65.4	7.9	20.6	36.9	3.0	1.0	.3	.2	4.4	5.3	1.8	.2	3.6	9.0

Table 5. Angoumois grain moth, abundance and amount of damage to corn infested in the field. Fall corn insect survey, Indiana, 1964.

Area	Fields infested	Ears infested	Loss 1963	Loss 1964
	Percent	Percent	Percent	Percent
NNW	10.0	2.0	0.	.02
NNC	9.1	1.8	0.	.01
NNE	7.7	1.5	0.	.01
NW	0.	0.	0.	
NC	0.	0.	0.	0.
NE	17.6	3.5	0.	0.
				.04
SW	0.	0.	0.	0.
SC	0.	0.	0.	0.
SE	0.	0.	0.	0.
SSW	22.7	5.4	.2	.06
SSC	25.0	16.7	.03	2.03
SSE	18.2	3.6	0.	.04
Averages				
NN	8.9	1.8	0.	.01
N	5.9	1.2	0.	.01
S	0.	0.	0.	0.
SS	22.0	8.6	0.	.71
West	8.2	1.8	.0	.02
Central	8.5	4.6	0.	.36
East	10.9	2.2	0.	.04
State	9.2	2.9	.0	.19

Note: The heaviest infestation was in Jackson County with 100% of ears infested and 39.5% of kernels damaged.

Table 6. Losses in yield of corn grown for grain due to birds and insects. Fall corn insect survey, Indiana, 1964. a/ b/

Area	Total corn yield 000's	Bird damage		European corn borer		Corn earworm		Corn leaf aphid		Angoumois grain moth		Total losses		
			000's		000's		000's		000's		000's		000's	000's
	Bus.	Pct.	Bus.	Pct.	Bus.	Pct.	Bus.	Pct.	Bus.	Pct.	Bus.	Pct.	Bus.	Dollars
NNW	42,549.8	.6	263.8	2.9	1,436.4	.5	247.7	11.2	5,547.8	.02	9.9	15.22	7,539.1	3,670.0
NNC	24,040.0	.1	29.9	3.1	926.9	.4	119.6	16.5	4,933.5	.01	3.0	20.11	6,013.0	6,915.0
NNE	18,674.3	.1	22.1	1.6	353.6	.1	22.1	17.2	3,800.8	.01	2.2	19.01	4,371.8	5,027.6
NW	39,839.6	.2	88.2	1.2	529.4	.1	44.1	4.5	1,985.4	0.	0.	5.90	2,603.0	2,993.4
NC	45,107.8	.1	53.2	1.0	532.6	.0	.5	14.3	7,615.6	0.	0.	15.40	8,201.4	9,431.6
NE	35,090.9	.0	1.5	1.1	518.1	.1	47.1	24.4	11,492.9	.04	18.8	25.64	12,076.9	13,888.4
SW	27,870.1	.2	58.7	1.0	293.4	.4	117.3	4.0	1,173.5	0.	0.	5.60	1,642.9	1,889.3
SC	15,800.6	.3	50.9	.4	67.9	.2	33.9	6.5	1,103.2	0.	0.	7.40	1,255.9	1,444.3
SE	35,890.7	.2	73.4	1.2	440.4	.3	110.1	1.0	367.0	0.	0.	2.70	990.8	1,139.4
SSW	36,283.1	.1	38.6	2.9	1,118.2	.4	154.2	3.0	1,156.7	.06	23.1	6.46	2,490.8	2,864.4
SSC	8,867.0	.1	9.6	3.6	346.6	.2	19.2	4.3	414.0	2.03	195.4	10.23	984.9	1,132.6
SSE	7,770.1	.0	.9	1.9	152.7	.4	32.1	1.4	112.5	.04	3.2	3.2	300.5	345.6
Averages and totals														
NN	85,264.1	.3	315.8	2.5	2,716.9	.2	389.4	15.0	14,282.1	.01	15.1	18.11	17,923.9	20,612.5
N	120,098.3	.1	142.9	1.1	1,580.1	.1	91.7	14.4	21,093.9	.01	18.8	15.65	22,881.3	26,313.5
S	78,841.4	.2	183.0	.9	801.7	.3	261.3	3.8	2,643.7	0.	0.	5.23	3,889.6	4,473.0
SS	52,920.2	.0	49.1	2.8	1,617.5	.3	205.5	2.9	1,683.2	.71	221.7	6.81	3,776.2	4,342.6
West	149,542.6	.3	449.3	2.0	3,377.4	.4	563.3	5.7	9,863.4	.02	33.0	8.30	14,275.8	16,417.2
Central	93,815.4	.2	143.6	2.0	1,874.0	.2	173.2	10.4	14,066.3	.36	198.4	13.28	16,455.2	18,923.5
East	97,426.0	.1	97.9	1.4	1,464.8	.3	211.4	11.0	15,773.2	.04	24.2	12.77	17,740.0	20,401.0
State	337,784.0	.2	690.8	1.8	6,716.2	.3	947.9	9.0	39,702.9	.19	255.6	11.45	48,471.0	55,741.7

a/ Monetary losses based on the average selling price of corn for the months of October, November, December, January and February - $1.15. Corn yields and price of corn supplied by Dr. Robert E. Straszheim of the Statistical Reporting Service, USDA.

b/ Bushel losses for all categories based upon the estimated yield in the absence of European corn borers and corn leaf aphids.

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SURVEY AND DETECTION OPERATIONS

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COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

CORN EARWORM heavy in milo in California and active in corn in Ohio. SOUTHWESTERN CORN BORER heavy in corn in New Mexico and infestation high in sweet corn in Oklahoma. PINK SCAVENGER CATERPILLAR numerous in corn and damaging grain in Alabama. (p. 1183). CORN LEAF APHID could become problem on seed heads of sorghums in Arizona; numerous unfilled ears of corn as result of feeding by this pest observed in Ohio. (p. 1184). SPOTTED ALFALFA APHID increased in alfalfa in areas of Arizona, and first specimens of season observed in Ohio. (p. 1185). THREE-CORNERED ALFALFA HOPPER caused moderate to heavy damage to alfalfa in Arizona. RED-NECKED PEANUTWORM heavy in terminals of peanuts in New Mexico. (p. 1186).

Larvae of a FRUIT FLY (Anastrepha suspensa) found for first time in grapefruit in Florida. (p. 1188). COWPEA CURCULIO reported to have caused loss of several thousand dollars to growers of Crowder peas in Alabama. (p. 1188). Single male PINK BOLLWORM moth taken in sex-lure trap 4 miles west of Colorado River in Riverside County, California. (p. 1189).

DETECTION

A new North American record reported was a MEALYBUG (Chorizococcus brevicruris McKenzie) collected from succulents in Sacramento California. This species was previously known only from a single specimen intercepted in quarantine in Hawaii in 1935 from an unknown California source, and described in 1960. (p. 1191).

New State records reported were ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) from Missouri (p. 1191); and EUROPEAN MANTIS (Mantis religiosa) from Washington (p. 1195).

New county records included: SORGHUM MIDGE (Contarinia sorghicola) in Johnson County, Kansas, (p. 1184); SPOTTED ALFALFA APHID (Therioaphis maculata) in Lenawee County, Michigan, (p. 1185); WALNUT HUSK FLY (Rhagoletis completa) in Fresno, Contra Costa and Kings Counties, California, (p. 1187); a MEALYBUG (Geococcus coffeae) in Polk County, Florida, (p. 1188); SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) in Potter County, Texas, (p. 1191); two MEALYBUGS, Chorizococcus brevicruris in San Bernardino County and Rhizoecus cacticans in Sacramento County, California, (p. 1191); and GIANT HORNET (Vespa crabro germana) in Vinton and Scioto Counties, Ohio, (p. 1193).

CORRECTIONS

See page 1195.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1197).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Apples, Tomatoes (for processing) and Tobacco in Maryland (pp. 1198, 1199), and Alfalfa and Cotton in Oklahoma in 1964 (p. 1200).

Reports in this issue are for week ending October 8 unless otherwise indicated.

WEATHER OF THE WEEK ENDING OCTOBER 11

HIGHLIGHTS: (1) Record cold, freezing, northeast sections. (2) Heat breaks long cold spell, northern Rockies. (3) Mostly dry West, rainy in East.

TEMPERATURE: Cool weather continued east of the Mississippi where it was the 2nd cold week in many sections. Weekly averages were 6° to 9° below normal in the Ohio Valley and northeastward. In the West, temperatures were 3° to 6° above normal and in the northern Great Plains this was the first above-normal week in about 2 months. In the Plains, temperatures reached 90° or higher as far north as South Dakota. Oklahoma City reported a late season record of 95°. The warm and sunny weather in the West was excellent for all outdoor activities.

FREEZING: Low temperatures during October 4-6, sent the freeze line southward into northeastern Indiana, and over most of Ohio, all of West Virginia, northwestern Virginia, and most of Delaware. Freezing was light to moderate in the south portions of this area and moderate to heavy in northern Pennsylvania, upper New York State and most of New England. Many lows in the middle or low 20's were early season records in New England. The first freezes in Ohio were about 5 days earlier than average; in the Virginia Piedmont the freezes would be about 2 weeks early.

PRECIPITATION: Very little occurred in the West, except 1 to 2 inches over Oregon and Washington. General rains in the East occurred as a weak Low moved from the northern gulf to the Great Lakes and there became very deep causing much windy and showery weather. Totals were mostly 0.8 to 1.5 inches east of the Mississippi with larger amounts in the west Florida area. The Northeast drought area received more than 1.0 inch.

STORMS: Winds were strong in the upper midwest on the 7th reaching 60 m.p.h., in Iowa, Nebraska, and southern Minnesota. On the same date, tornadoes occurred in the Carolinas with one fatality at Ashboro, North Carolina. On the 8th, gale winds continued over the Great Lakes and there was some damage from the thunderstorms and squall lines in the Ohio Valley. (Summary supplied by the U. S. Weather Bureau)

CEREAL AND FORAGE INSECTS

CORN EARWORM (Heliothis zea) - CALIFORNIA - Larvae heavy in milo in Visalia, Tulare County; averaged 2 or more per head. (Cal. Coop Rpt.). NEBRASKA - Moderate ear damage noted in field corn in some areas of Perkins County. (Rhine). OHIO - Active in Scioto County, with some fields having approximately 1 infested ear per 10 ears examined. (Blair). WISCONSIN - Few fully grown larvae present in corn in scattered locations. (Wis. Ins. Sur.). ARKANSAS - Larvae ranged 50-60 per 100 sweeps in Crittenden County alfalfa; ranged zero to very low in other areas. (Ark. Ins. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - WISCONSIN - Larvae persist in late field corn. (Wis. Ins. Sur.). KANSAS - Injury to corn light in Stafford County; much less than in 1964. (Painter). ALABAMA - Extremely heavy damage occurred to most late-planted corn in patches and fields examined in Wilcox, Dallas and Chilton Counties. Late pupation occurring in Chilton County field, with few full-grown larvae still feeding. Larvae reported feeding on small grain on farm in Madison County. (Magnusson, Davis, et al.).

WESTERN BEAN CUTWORM (Loxagrotis albicosta) - NEBRASKA - Some larvae still active in Dawson County field corn. (Rhine).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - NEW MEXICO - Moderately heavy in cornstalks in Roosevelt County. (Kloepfer). KANSAS - Infestation of 37 percent in border rows of corn reported at Saint John, Stafford County. Infestation partly reinforced by introduction of infested stubble in fall of 1964. (Painter). OKLAHOMA - Infested 90 percent of stalks of sweet corn checked in Pontotoc County; also damaging ears. (Okla. Coop. Sur.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - ILLINOIS - Annual fall survey, in general, indicates large decrease in populations in counties in northern half of State compared with those present in 1964; populations in southern half of State show an increase, except in Pulaski and Alexander Counties which showed large decrease. State average of 57 borers per 100 plants in 1965 is slightly more than half of the 100 borers per 100 plants found in 1964. (Ill. Ins. Rpt.). SOUTH DAKOTA - Fall survey indicated extremely low borer populations in fields checked in Brule, Aurora, Davison and Sanborn Counties. Larvae mostly third stage. (Jones).

PINK SCAVENGER CATERPILLAR (Sathrobrota rileyi) - ALABAMA - Larvae numerous in all corn and damaging grain in Mobile, Baldwin, Monroe, Wilcox, Dallas and Chilton Counties. (Davis et al.).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - OHIO - Corn badly lodged or bent over just above soil level and with weak root systems observed in Clinton and Greene Counties; 10-20 percent of corn down in two Clinton County fields and one field in Greene County. Other fields in these counties showed less damage. Stalk rot prevalent in many fields in central and south central areas; most of downed corn had strong root systems and lodging appeared due to this factor. (Rose). Populations in State appear to have decreased generally during 1965. (Blair). WISCONSIN - Adults of this pest, although scarce, and few Glischrochilus quadrisignatus (a sap beetle) present in few fields of corn. (Wis. Ins. Sur.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - NEBRASKA - Adults still active in southwest. Lodging due to larval damage noted in few Furnas County fields of corn. (Rhine).

CORN ROOTWORMS (Diabrotica spp.) - SOUTH DAKOTA - D. longicornis (northern corn rootworm) and D. virgifera still found in corn and alfalfa in Charles Mix and Bon Homme Counties. Adults ranged 2-4 per plant in fields checked in Charles Mix County; populations about evenly divided between D. longicornis and D. virgifera. Adult counts per 100 sweeps in field of alfalfa west of Springfield, Bon Homme County, averaged 5 D. undecimpunctata howardi (southern corn rootworm) and 28 D. longicornis. (Jones).

RICE WEEVIL (Sitophilus oryzae) - ALABAMA - Adults of this species and Cathartus quadricollis (square-necked grain beetle) present in ears of corn in all fields surveyed in Mobile, Baldwin, Monroe, Wilcox, Dallas and Chilton Counties. S. oryzae dominant species. (Davis).

CORN LEAF APHID (Rhopalosiphum maidis) - OHIO - Populations as well as evidence of past heavy infestations noted in field corn in three central and west central counties. Numerous unfilled ears resulting from earlier feeding on tassels observed in two Clark County fields and one Greene County field; approximately 50 percent of 25 ears checked in one field were barren. Active populations found in several fields in these two counties and in Pickaway County. Corn previously heavily infested showed remants of sooty mold growth on honeydew. (Rose). Aphids best observed now in layers of husks and under leaves. (Blair). WISCONSIN- Few winged forms collected in fields of rye. (Wis. Ins. Sur.). KANSAS - Noted on late corn in east central district, with fairly lare numbers (200-500 per stalk) present in some instances. (Simpson). ARIZONA - Light infestations appearing on sorghums in Maricopa and Pinal Counties. Could become problem on seed heads. (Ariz. Coop. Sur.).

CORN ROOT APHID (Anuraphis maidiradicis) - OHIO - Abundant in southern area and general throughout State. (Blair).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons) - WISCONSIN - Common in fields of rye; averaged as high as 1 per two sweeps. (Wis. Ins. Sur.).

A LARGID BUG (Largus cinctus californicus) - CALIFORNIA - Medium on corn plants in Fieldbrook, Humboldt County. (Cal. Coop. Rpt.).

HESSIAN FLY (Mayetiola destructor) - KANSAS - Larvae and flaxseed stage estimated at 10 percent on volunteer wheat plants in Stafford County; eggs observed. Infestation of volunteer plants about 100 percent at another location; eggs noted on leaves of newly emerged wheat in planted field. (Painter). OREGON - Infesting nonvernalized wheat in field of spring-planted barley near Albany, Linn County; 20-50 percent of pupae parasitized by polyembryonic parasites. (Ritcher, Oct. 9).

SORGHUM MIDGE (Contarinia sorghicola) - KANSAS - Collected in Johnson County on September 28, 1965. This is a new county record. (Wilkins).

TERMITES - OHIO - Unspecified species reported feeding on sweet corn in Darke County garden. (Blair).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - ALABAMA - Extremely active mounds, with considerable height, found in large numbers in fields of corn in much of coastal and Black Belt areas in southwest section of State. Unusually heavy rains during recent weeks may be cause of mounds having been built up higher than usual; many mounds 15-20 inches high noted. (McQueen).

GRASSHOPPERS - OKLAHOMA - Moderate numbers of grasshoppers (several species) reported moving into new alfalfa and small grains in Mayes County. (Okla. Coop. Sur.). MISSOURI - Survey revealed noneconomic populations over most of State; counts per square yard ranged 0-2 within fields, 5-10 in margins. Highest numbers north of Missouri River found in Montgomery and St. Charles Counties and classified as light; ranged 3-7 per square yard within fields and 11-20 in margins. Light numbers also found in isolated spots in southeastern area and in large section of southwest and west central areas. Highest counts, classified as moderate, recorded from small area in Douglas County, a narrow strip in southwestern area from Newton to Cedar Counties, and small area in Henry County; grasshoppers per square yard ranged 8-14 within fields, 21-40 in margins. Melanoplus femurrubrum (red-legged grasshopper) dominant species in State; other species found, in order of prominence, were M. differentialis (differential grasshopper), M. sanguinipes (migratory grasshopper) and M. bivittatus (two-striped grasshopper). (Houser, Thomas). NEBRASKA - Light to moderate numbers of M. differentialis (differential grasshopper) noted on field margins in southwestern section. (Rhine). SOUTH DAKOTA - Grasshoppers, including M. femurrubrum, M. bivittatus and M. differentialis, active at field borders of corn

and road edges in Brule, Aurora, Davison and Sanborn Counties. Usually ranged 10-20 per square yard in these areas. Temperatures ranged from low forties in mornings to low eighties by midafternoon during period October 4-8. (Jones). WYOMING - Adults of several species ranged 4-8 per square yard in alfalfa in northern Big Horn County. (Marks). ARIZONA - Survey indicates approximately 1,106,000 acres of rangeland infested with several species of grasshoppers in Saligman and Chino Valley areas of Yavapai County; counts ranged 9-100 per square yard. (Ariz. Coop. Sur.).

A CTENUCHID MOTH (Ctenucha multifaria) - CALIFORNIA - Larvae locally heavy in lawns in Redding, Shasta County. (Cal. Coop. Rpt.).

SOD WEBWORMS - UTAH - Damaging lawn of school at Huntington, Emery County. (Knowlton). OREGON - Large numbers of larvae, probably Crambus topiarius (cranberry girdler), infesting field of orchard grass near Corvallis, Benton County. (Every, Oct. 8).

CHINCH BUG (Blissus leucopterus) - VIRGINIA - Infested lawn in Richmond. Det. by J. L. Herring. (Matheny).

A SPITTLEBUG (Prosapia bicincta) - ALABAMA - Nymphs and adults causing considerable damage to grass crops in Chambers County. (Stewart).

A LEAF MINER FLY (Liriomyza trifolii) - CALIFORNIA - Larvae medium in clover lawns in Orinda, Alameda County. (Cal. Coop. Rpt.).

PEA APHID (Acyrthosiphon pisum) - VIRGINIA - Light in alfalfa in Giles, Bland and Tazewell Counties; ranged 1-3 per sweep. Averaged 10 per sweep in Russell County alfalfa. (Isakson). ILLINOIS - Populations vary 280-1,600 (average 690) per 100 sweeps in alfalfa in southeast district. (Ill. Ins. Rpt.). ARKANSAS - Numbers vary widely in alfalfa checked. Thousands per 100 sweeps collected in Carroll and Marion Counties; none taken in Boone and Crittenden Counties. (Ark. Ins. Sur.). OKLAHOMA - Light numbers noted in few east central area fields. (Okla. Coop. Sur.). COLORADO - Numbers low in alfalfa checked. (Simpson). WYOMING - Adults and nymphs per 100 sweeps in alfalfa averaged 44 in Park County, 38 in Big Horn County and 26 in Washakie County. (Marks). NEVADA - Very light in alfalfa in Alamo area, varied 5-30 per sweep in Hiko area and only occasional specimen found in Panaca, all in Lincoln County. (Bechtel, Zoller).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Increased populations found in alfalfa in Yuma County, in Chandler and Mesa areas of Maricopa County, and in scattered fields near Casa Grande in Pinal County. (Ariz. Coop. Sur.). NEVADA - Light in alfalfa in Alamo area, with none found in Hilo or Panaca areas, all in Lincoln County. (Bechtel, Zoller). OKLAHOMA - Ranged 5-90 per 10 sweeps in most alfalfa checked in east central area; ranged up to 350 per 10 sweeps in occasional field. Averaged 175 per 10 sweeps in Tulsa County. (Okla. Coop. Sur.). NEBRASKA - Populations declining in Dundy and Keith Counties. (Manglitz). SOUTH DAKOTA - Present in low numbers in Bon Homme County alfalfa; averaged 10 per 100 sweeps. (Jones). ILLINOIS - Counts vary 20-2,200 (average 1,325) per 100 sweeps in southeast district alfalfa. (Ill. Ins. Rpt.). OHIO - Two-winged adults taken in field of alfalfa south of Oxford, Butler County. This first observation of species in State for 1965. (Wells, Barry, Rose). MICHIGAN - Small numbers of adults and nymphs collected in field of alfalfa in Lenawee County. This is a new county record. (Newman).

ALFALFA PLANT BUG (Adelphocoris lineolatus) - ILLINOIS - Adults varied 1-20 (average 12.75) and nymphs 0-30 (average 10) per 100 sweeps in alfalfa in southeast district. (Ill. Ins. Rpt.).

RAPID PLANT BUG (Adelphocoris rapidus) - ILLINOIS - Adults varied 1-30 (average 10.75) per 100 sweeps with no nymphs observed in southeast district alfalfa. (Ill. Ins. Rpt.).

TARNISHED PLANT BUG (Lygus lineolaris) - ILLINOIS - Adults varied 5-80 (average 31.25) and nymphs 0-20 (average 7.5) per 100 sweeps in alfalfa in southeast district. (Ill. Ins. Rpt.).

LYGUS BUGS (Lygus spp.) - WYOMING - Adults averaged 34 per 100 sweeps in alfalfa in Park, Big Horn and Washakie Counties. (Marks).

GREEN STINK BUG (Acrosternum hilare) - MISSOURI - Adults and nymphs present in most soybeans in Boone County. Generally light, but heavy in some isolated spots. Nymphs found feeding on seeds of multiflora rose in Ashland Wildlife Area, Boone County. (Foster, Crow).

POTATO LEAFHOPPER (Empoasca fabae) - ILLINOIS - Adults varied 30-60 (average 47.5) and nymphs 100-240 (average 153) per 100 sweeps in southeast area alfalfa. (Ill. Ins. Rpt.). NEBRASKA - General light damage noted in alfalfa in Dundy and Keith Counties. (Manglitz).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Populations decreased in alfalfa in Yuma, Maricopa and Pinal Counties, but remain high in Graham County. Moderate to heavy damage apparent in many fields. (Ariz. Coop. Sur.). OKLAHOMA - Ranged 1-21 per 10 sweeps in alfalfa checked in Wagoner, Muskogee, Sequoyah, Le Flore and Tulsa Counties. Light in soybeans in same area. (Okla. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - NEVADA - Larvae varied 1-3 per sweep in several fields of alfalfa in Hiko area, Lincoln County. (Bechtel, Zoller). ARIZONA - Larval counts increasing in alfalfa in Buckeye, Chandler and Peoria areas of Maricopa County; decreases noted in Pinal and Yuma County fields. (Ariz. Coop. Sur.). ARKANSAS - Averaged about 100 per 100 sweeps in Crittenden County alfalfa; low in other areas checked. (Ark. Ins. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Almost complete defoliation of soybeans in some isolated fields occurred in Mobile and Baldwin Counties; less damage observed in other fields in these counties and in Monroe County. (McQueen).

GREEN CLOVERWORM (Plathypena scabra) - ILLINOIS - Larvae varied 3-40 (average 21) per 100 sweeps in alfalfa in southeast district. (Ill. Ins. Rpt.).

A LOOPER (Pseudoplusia includens) - MICHIGAN - Blacklight trap collections indicate recent heavy adult flights in Jackson and Livingston Counties. (Dowdy).

RED-NECKED PEANUTWORM (Stegasta bosqueella) - NEW MEXICO - Heavily infested terminals of peanut plants in most fields checked in Roosevelt County. (Kloepfer). OKLAHOMA - Averaged 40 per 100 terminals in peanuts checked in Tulsa County. (Okla. Coop. Sur.).

GARDEN WEBWORM (Loxostege similalis) - ARIZONA - First infestation of season found in alfalfa in Yuma Valley in Yuma County. Averaged 20 per 100 sweeps. (Ariz. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - NEVADA - All larval stages, pupae and adults present in alfalfa in Hiko area at northern end of Pahranagat Valley in Lincoln County. Counts per sweep varied 1-5 larvae and 0-2 adults. Larvae and pupae present in cocoons in debris at bases of plants. Light damage evident in some fields. (Bechtel, Zoller). COLORADO - Averaged approximately 1 larva per sweep in alfalfa checked near Fort Collins, Larimer County. (Simpson). ARKANSAS - Surveys of alfalfa negative in Carroll, Boone, Marion and Crittenden Counties. (Ark. Ins. Sur.). ILLINOIS - Adults varied 0-7.5 (average 2.25) per 100 sweeps in alfalfa in southeast district. No larvae observed. (Ill. Ins. Rpt.). VIRGINIA - Adults scarce in alfalfa in Giles, Bland, Tazewell and Russell Counties, averaged two per 100 sweeps. Larvae heavy (130 per 100 sweeps) in field in Bland County; ranged 5-15 per 100 sweeps in Giles, Tazewell and Russell Counties. (Isakson).

WEEVILS (Sitona spp.) - SOUTH DAKOTA - Relatively common in alfalfa sampled in Bon Homme County; up to 50 adults per 100 sweeps taken. (Jones).

BEAN LEAF BEETLE (Cerotoma trifurcata) - OKLAHOMA - Increasing in soybeans and alfalfa in eastern Sequoyah County and in northern Le Flore County. Increase occurring too late to result in serious damage to soybeans in area. (Okla. Coop. Sur.).

ALFALFA SEED CHALCID (Bruchophagus roddi) - OKLAHOMA - Emergence rate of adults from nondiapausing larvae greatly reduced in Payne County alfalfa. (Okla. Coop. Sur.).

FRUIT INSECTS

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - FLORIDA - Adults general and causing moderate damage to stems and bark of peach at Brandon, Hillsborough County, October 1. (Simmons).

PEAR RUST MITE (Epitrimerus pyri) - CALIFORNIA - Medium on 275 plants of pear nursery stock (Pyrus kawakami) in Pacoima, Los Angeles County. Normally, hibernating forms would be present at this time of year. This is unusual infestation and may be due to host being evergreen pear. (Cal. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Large numbers of larvae present in shucks of pecans under trees throughout central and southern parts of State. L. caryana and Hyphantria cunea (fall webworm) continue to damage pecans in Covington County. (Linder et al.).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Infestations continue heavy on pecans in Mayes County. (Okla. Coop. Sur.).

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - Continues to damage pecan trees in Noble County. (Okla. Coop. Sur.).

NAVEL ORANGEWORM (Paramyelois transitella) - CALIFORNIA - Medium in almond nuts locally in Oakland, Alameda County. (Cal. Coop. Rpt.).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Continues to cause moderate to heavy damage to pecans in Cleveland County. (Okla. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Adults heavy in walnuts in Auberry, Fresno County, and in Lafayette, Contra Costa County, and light in peach fruit in Hanford, Kings County. (Cal. Coop. Rpt.). These are new ARS county records. (PPC). UTAH - Light in black walnuts at Millville, Cache County. (Knowlton).

A FRUIT-TREE MITE (Bryobia rubrioculus) - CALIFORNIA - Eggs medium on almond trees in Paso Robles, San Luis Obispo County. (Cal. Coop. Rpt.).

Citrus Insect Situation in Florida - End of September - CITRUS RUST MITE (Phyllocoptruta oleivora) infested leaves in 58 percent of groves (norm 59 percent), 37 percent economic (norm 37 percent); and infested fruit in 64 percent of groves (norm 70 percent), 46 percent economic (norm 46 percent). Fall increase has started and will continue into November. Statewide population now in high range and is near normal level for October. Highest districts are south, west, central, east and north. CITRUS RED MITE (Panonychus citri) infested 20 percent of groves (norm 40 percent); 4 percent economic (norm 19 percent). Population is much below average and in the low range. An upward trend is underway but population is not expected to exceed normal level in October. All districts are low. TEXAS CITRUS MITE (Eutetranychus banksi) infested 20 percent of groves (norm 24 percent); 3 percent economic (norm 8 percent). Population is below normal and in very low range. Increase will occur but only scattered groves are expected to develop

important infestations in October. All districts are low; west is highest. GLOVER SCALE (Lepidosaphes gloverii) infested 57 percent of groves; 7 percent economic. Population is above average; increase is expected. Highest district is south. PURPLE SCALE (L. beckii) infested 45 percent of groves; 3 percent economic. Population is below average; increase is expected. Highest district is south. YELLOW SCALE (Aonidiella citrina) infested 48 percent of groves; 4 percent economic. Population is above average; little change expected. Highest district is central. CHAFF SCALE (Parlatoria pergandii) infested 33 percent of groves; 3 percent economic. Population is below average; increase is expected. Highest district is south. BLACK SCALE (Saissetia oleae) infested 38 percent of groves; 15 percent economic. Population is above average but will decrease and be in low range. Highest district is central. WHITEFLY larvae infested 62 percent of groves; 8 percent economic. Population is near average. Larvae will increase; adults will decrease. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred)).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Economic populations continue to require controls on citrus on Yuma Mesa in Yuma County. (Ariz. Coop. Sur.).

CITRUS RUST MITE (Phyllocoptruta oleivora)- ARIZONA - Two new infestations found in citrus groves on Yuma Mesa in Yuma County. (Ariz. Coop. Sur.).

GLOVER SCALE (Lepidosaphes gloverii) - FLORIDA - Severely damaged stems of calamondin (Citrus mitis) at Pinellas Park, Pinellas County, September 29. (Barber, Bingaman).

A MEALYBUG (Geococcus coffeae) - FLORIDA - Eggs and adults generally infesting roots of key lime in Winter Haven, Polk County. (Youtsey, Boring, Sept. 27). This is first ARS record for county. (PPC).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Larvae found in grapefruit for first time in State at Pompano Beach, Broward County, on September 30 and October 1. Two larvae in shiners from June blooms on same tree; not in current crop. Similar type infestations develop occasionally in Puerto Rico. (O'Brien et al.).

A LEAF-FOOTED BUG (Leptoglossus clypealis) - CALIFORNIA - Adults present in medium numbers on pomegranite fruit at Willows, Glenn County. (Cal. Coop. Rpt.).

CITRUS MEALYBUG (Pseudococcus citri) - CALIFORNIA - Medium on banana trees in La Mesa, San Diego County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Populations continue to increase in lettuce and require controls in areas of Maricopa County. (Ariz. Coop. Sur.). ALABAMA - Larvae of T. ni. and Pieris rapae (imported cabbageworm) range light to heavy on cabbage and collards in home gardens throughout central area. (McQueen).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Larvae increasing in lettuce in Yuma and Maricopa Counties; controls applied to few fields. (Ariz. Coop. Sur.).

CROSS-STRIPED CABBAGEWORM (Evergestis rimosalis) - MARYLAND - Infesting broccoli planting at Fairland, Montgomery County. (U. Md., Ent. Dept.).

GARDEN WEBWORM (Loxostege similalis) - ARIZONA - Scattered infestations appearing on lettuce in areas of Yuma County. (Ariz. Coop. Sur.).

BEAN LEAF ROLLER (Urbanus proteus) - FLORIDA - Larvae severely damaged snap beans at Ocala, Marion County, October 1. (Roberson).

COWPEA CURCULIO (Chalcodermus aeneus) - ALABAMA - Reported to have caused loss of several thousand dollars to growers of Crowder peas in southeast area during 1965. (Gates, Glasscock).

FLEA BEETLES (Epitrix spp.) - OREGON - Surveys show E. subcrinita (western potato flea beetle) again present this season in Malheur, Baker and Klamath Counties but no severe damage seen. E. tuberis (tuber flea beetle), once present in heavy numbers in Deschutes, Crook and Jefferson Counties, not a problem in these areas in 1965; spotted damage occurred in Willamette Valley, but differentiation between damage by this pest and that of symphylans difficult. (Morrison, Oct. 8).

A MINT FLEA BEETLE (Longitarsus waterhousei) - OREGON - Some damage occurring in mint fields in Umatilla County and in Willamette Valley, but apparently less than that in 1964. (Morrison, Oct. 8).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - TEXAS - Heavy locally on peas in Midland County. (Green).

COTTON INSECTS

BOLLWORM (Heliothis zea) - CALIFORNIA - Evident in many fields of cotton in San Joaquin Valley; larvae ranged up to 40 and 50 per 100 plants. Generally, new hatch very light and populations appear on decline. (Leigh, Oct. 4). ARIZONA - Decreasing on cotton in nearly all growing areas; occasional infestation requires control. (Ariz. Coop. Sur.). NEW MEXICO - Occasional damaged boll noted in Roosevelt County cotton. (Kloepfer). TEXAS - Light to moderate, widespread populations infesting cotton in King and Cottle Counties. (Meisch).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Late season buildup on cotton required some controls in scattered areas of Yuma, Maricopa and Pinal Counties. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Infestations range light to moderate in cotton, with some light damage reported. Controls required in few fields. (Ariz. Coop. Sur.).

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Single male moth taken in sex-lure trap October 4; trap located in Riverside County, approximately 4 miles south of Blythe and 4 miles west of Colorado River. Det. by W. R. Bauer; verified by genitalia mount. Survey intensified in area; all other traps negative to October 8. (Cal. Coop. Rpt.). ARIZONA - Live moths continue to appear in experimental cages in heavily infested field in Graham County; 385 moths collected during period September 15 through October 8. New infestations found in Underwood, Citrus Park and lower Gila areas of Maricopa County; some degree of infestation present in all fields of stub cotton in county. (Ariz. Coop. Sur.). NEW MEXICO - Moderate to heavy infestations found in cotton east of Deming, Luna County. (Hare). Infestations very light in Roosevelt County cotton. (Kloepfer).

BOLL WEEVIL (Anthonomus grandis) - OKLAHOMA - Heavy in cotton in east central area and in Payne and Bryan Counties. Damaging squares and small bolls that will not mature; considered noneconomic in most areas. (Okla. Coop. Sur.). TEXAS - Light to heavy, widespread populations reported on cotton in Hall, Cottle, King and Stonewall Counties. (Texas Coop. Rpt.).

LYGUS BUGS (Lygus spp.) - CALIFORNIA - Very abundant on cotton in some situations in San Joaquin Valley, with 1-2 found on every plant. Damage severe to bolls 1.5 inches in diameter or smaller in some such situations. Control not very practical at this time. (Leigh, Oct. 4).

COTTON APHID (Aphis gossypii) - CALIFORNIA - Evident in many fields of cotton in San Joaquin Valley, but no economic infestations encountered. Parasitism high. (Leigh, Oct. 4).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - NORTH CAROLINA - Larvae noted in pine tips in Person County. (Mount). SOUTH CAROLINA - Very damaging to Scotch pine on farm in Lexington County; 5 sprays failed to give control. Little damage on farm in Darlington County. No damage in Georgetown County. (Nettles et al., Sept. 28). OKLAHOMA - Fourth-generation larvae present on pines in Payne County; some pupating and emerging but most larvae will overwinter. (Okla. Coop. Sur.).

AN OLETHREUTID MOTH (Rhyacionia pasadenana) - CALIFORNIA - Larvae, probably this species, locally heavy in pine trees in Vallejo, Solano County. (Cal. Coop. Rpt.).

PINE WEBWORM (Tetralopha robustella) - RHODE ISLAND - Injuring pine in planting in Lafayette, Washington County; all larvae observed with 1-5 parasite eggs, probably tachina flies. (Mathewson, Sept. 28).

BAGWORM (Thyridopteryx ephemeraeformis) - MISSOURI - Males began emergence September 10 in Columbia area, Boone County. (Craig).

ENGRAVER BEETLES (Ips spp.) - ARKANSAS - Few spot infestations remain active, primarily in Ouachita Mountains, but remained at static level or decreased in most areas. Some locations reported increased activity partly due to lightning strikes or other stress. (Ark. For. Pest Rpt., Oct.).

WEEVILS - ARKANSAS - Numbers of Pissodes nemorensis (deodar weevil), Hylobius pales (pales weevil) and a pitch-feeding species lower than in recent years. Some increased activity noted in Oden Ranger District; elsewhere, population levels static or not observed. (Ark. For. Pest Rpt., Oct.).

PINE BARK APHID (Pineus strobi) - WISCONSIN - Nymphs appearing in Madison area. (Wis. Ins. Sur.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - VIRGINIA - Very large population of larvae feeding on few isolated pines in covington County community. (Pike).

FALL WEBWORM (Hyphantria cunea) - ARKANSAS - Very light in southern two-thirds of State in early summer. Increase noted in Coastal Plain and in delta areas in midsummer to late summer. Infestations in northern area consisted almost, if not entirely, of orange race. First-generation activity very heavy south of Arkansas River Valley; very light partial second generation of orange race observed. Infestations nuisance and not generally considered economic. Increasing value of walnuts in Ozark Region where severe to complete defoliation of trees occurred warrants reevaluation of pest. (Ark. For. Pest Rpt., Oct.).

CATALPA SPHINX (Ceratomia catalpae) - OKLAHOMA - Heavy on catalpa trees in Okfuskee County. (Okla. Coop. Sur.).

MIMOSA WEBWORM (Homadaula albizziae) - CALIFORNIA - Medium on Albizia julibrissin in Durham, Butte County. (Cal. Coop. Rpt.). OHIO - Fully grown larvae noted on 200 honeylocust trees in Mahoning County. (Kelly).

OAK SKELETONIZER (Bucculatrix ainsliella) - RHODE ISLAND - Locally heavy in residential area in Warwick, Kent County. Caused unsightly feeding; most now pupating. (Mathewson).

VARIABLE OAK LEAF CATERPILLAR (Heterocampa manteo) - OKLAHOMA - Light to moderate on oaks in east central area; considerably lighter than in 1964 in most areas. (Okla. Coop. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - NEVADA - Larvae and associated damage found on elms in Panaca, Lincoln County. This is second known location in county; previously reported in Caliente. (Bechtel, Zoller). UTAH - Damage in Logan-Smithfield area, Cache County, more conspicuous this year. (Davis, Knowlton). COLORADO - Noted under bark scales in Fort Collins. (Hantsbarger).

TWIG GIRDLER (Oncideres cingulata) - OKLAHOMA - Active on several species of shade trees in Mayes and Washington Counties. (Okla. Coop. Sur.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - TEXAS - Heavy locally on elms in Potter County. (Meisch). This is a new county record. (ARS).

A SCARAB (Cotinis texana) - ARIZONA - Feeding on sap on elms; nuisance to home-owners in Yuma, Yuma County. (Ariz. Coop. Sur.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - MISSOURI - Numerous specimens collected from motel near Rolla, Phelps County, September 7; additional specimens and damage to oaks observed in area on September 17. This is a new State record. (Craig, Thomas).

A WEEVIL (Smicronyx profusus) - TEXAS - Large numbers noted on elms in Pecos County; possibly seeking hibernation sites. (Neeb, Sept. 3).

APHIDS - NEVADA - Lachnus salignus heavy on willows in Panaca, Lincoln County. (Bechtel, Zoller). UTAH - Fall mirgation of various species began throughout Cache County and in Brigham-Willard area, Box Elder County. Heavy on beech and moderate on linden trees at Logan, Cache County. Pterocomma smithiae very heavy on bark of willows at Providence, Cache County. (Knowlton). ALABAMA - Enormous groups of Prosiphilus tessellatus (woolly alder aphid) noted on widely isolated alders along pond and creek banks. (McQueen).

A MAPLE WHITEFLY (Aleurochiton forbesii) - OHIO - Ranged up to 50 per leaf on most of lower leaves of many red maples in Montgomery County; none observed on sugar or Norway maples. (Cooley).

TULIPTREE SCALE (Toumeyella liriodendri) - NORTH CAROLINA - Many crawlers present on yellow-poplar in Cumberland County. (Robertson, Oct. 1).

GALL WASPS - TEXAS - Many specimens noted over very wide area of State; hosts mainly oak and hackberry. (Texas Coop. Rpt.). CALIFORNIA - Bassettia herberti heavy on evergreen oak in San Rafael, Marin County. (Cal. Coop. Rpt.).

A FALSE SPIDER MITE (Brevipalpus cardinalis) - CALIFORNIA - Medium on ash trees in Earp, San Bernardino County. (Cal. Coop. Rpt.).

A MEALYBUG (Chorizococcus brevicruris McKenzie) - CALIFORNIA - Heavy on stems, crowns and roots of succulents (Stapelia sp.) and light on Huernia spp. in hobbyist's hothouse at Sacramento, Sacramento County; collected September 7 by B. A. Taylor. Det. by R. F. Wilkey. Adults and crawlers found on roots of cactus in local nursery in Sacramento week ending September 24. This species was known only from a single specimen intercepted in quarantine in Honolulu, Hawaii, in 1935 on Caralluma nebrowni from an unknown California source; species described in 1960. These records constitute the first established infestations in North America. Heavy, week ending October 8, on Stapelia sp. in nursery in Yucca Valley and medium on Huernia sp. in Twentynine Palms, San Bernardino County. This is a new county record. (Cal. Coop. Rpt.).

MEALYBUGS - CALIFORNIA - Rhizoecus cacticans heavy on Echeveria sp., Sempervivum sp., Haworthia sp. and Mammillaria sp. nursery stock in Sacramento, Sacramento County. This is a new county record. (Cal. Coop. Rpt.). FLORIDA - Ferrisia virgata (striped mealybug) localized and severely damaging stem and leaves of Fatshedera sp. at Tampa, Hillsborough County. (Hale, Sept. 28). This is a new host record for Florida Division of Plant Industry. (Fla. Coop. Sur.). F. virgata

localized and severely damaging leaves and stem of Codiaeum variegatum at Tampa. (Hale, Sept. 28).

COTTONY-CUSHION SCALE (Icerya purchasi) - SOUTH CAROLINA - Affecting boxwoods, camellias and other garden plants in Greenville. (Nettles, Oct. 5).

CHAFF SCALE (Parlatoria pergandii) - TEXAS - Heavy on euonymus in Bee County. Det. by B. McDaniel. (Holt).

Coccids in Florida - Diaspis boisduvalii generally infesting and severely damaging queen palm at Pinellas Park, Pinellas County. (Barber, Bingaman, Sept. 29). Aspidiotus cyanophylli general on and severely damaging leaves of dwarf date palm at St. Petersburg, and caused moderate to severe damage to Ligustrum sp. at Pinellas Park. (Barber, Bingaman, Sept. 29). Chrysomphalus aonidum (Florida red scale) caused moderate to severe damage to Ligustrum sp. at Pinellas Park. (Bingaman, Barber, Sept. 29). All stages of Fiorinia theae (tea scale) localized and severely damaging leaves of camellia and holly in nursery at Leesburg, Lake County, (Bentley, Oct. 4); scattered and moderately damaging camellia, and localized and lightly damaging Burford holly in nursery at Bradenton, Manatee County. (Bickner, Sept. 29).

RUSTY PLUM APHID (Hysteroneura setariae) - ARIZONA - Heavy on ornamentals throughout Phoenix, Maricopa County. (Ariz. Coop. Sur.).

A PYRAUSTID MOTH (Undulambia polystichalis) - FLORIDA - Larvae damaging and pupae noted on leatherleaf fern (Polystichum adiantiforme) in fernery at Pierson, Volusia County. (Roberts).

MORNING-GLORY LEAF MINER (Bedellia somnulentella) - CALIFORNIA - Medium on morning-glory in Kerman, Fresno County. (Cal. Coop. Rpt.).

BEET ARMYWORM (Spodoptera exigua) - CALIFORNIA - Medium on amaranthus in Visalia, Tulare County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - NEW HAMPSHIRE - Larvae damaging ornamental peppers in greenhouse at Concord. (Sutherland).

HOLLYHOCK WEEVIL (Apion longirostre) - CALIFORNIA - Adults heavy on hollyhock flowers in Willows, Glenn County, and taken on peach fruit in Chico, Butte County. (Cal. Coop. Rpt.).

BLACK BLISTER BEETLE (Epicauta pennsylvanica) - ALABAMA - Large number of adults noted on goldenrod throughout central and southern areas. (McQueen).

A SPRINGTAIL (Proisotoma minuta) - CALIFORNIA - Nymphs medium in soil around African-violets in Fresno, Fresno County. (Cal. Coop. Rpt.).

A FALSE SPIDER MITE (Brevipalpus sp.) - ARIZONA - Causing severe damage to chrysanthemums in Yuma, Yuma County. (Ariz. Coop. Sur.).

CYCLAMEN MITE (Steneotarsonemus pallidus) - RHODE ISLAND - Damaging African-violet in Westerly, Washington County. (Hindle, Mathewson, Sept. 29).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - LOUISIANA - Jefferson Parish Department of Mosquito Control larval collections for week of October 8 included Aedes sollicitans (salt-marsh mosquito), A. vexans, Anopheles bradleyi, A. crucians, A. quadrimaculatus (common malaria mosquito), Culex erraticus, C. pipiens quinquefasciatus (southern house mosquito), C. restuans, C. salinarius, Psorophora confinnis and Uranotaenia sapphirina. Collections indicated sharp increase in Culex salinarius breeding. Light-trap collections of adults in same period showed slight increase; 19,065 specimens taken. Culex salinarius predominated. Culex restuans found for first

time this year. (Stokes). OKLAHOMA - Adults of several species annoying people in Bryan and Washington Counties; numbers decreased in east central area. (Okla. Coop. Sur.). COLORADO - Mosquitoes, mostly Aedes dorsalis, increasing to moderate levels near Fort Collins, Larimer County. (Johnsen). OHIO - Numerous species collected August 13-September 10 and September 14-17 by incandescent light trap at Wright-Patterson Air Force Base near Dayton. Species included: 6 Culex tarsalis, 29 C. pipiens quinquefasciatus, 5 C. nigripalpus, 8 Culiseta spp., 35 Aedes vexans, 23 Anopheles punctipennis and 11 Uranotaenia sapphirina. Det. by Raye. (Wilson).

FACE FLY (Musca autumnalis) - UTAH - Active and annoying cattle and horses in Logan-Hyrum area of Cache County; populations lower following severe frost in late September. (Knowlton).

HOUSE FLY (Musca domestica) - OKLAHOMA - Heavy and very annoying in residential areas in Stillwater, Payne County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - KANSAS - Ranged 200-400 per animal in Doniphan and Brown Counties. (Simpson). OKLAHOMA - Light to moderate on cattle in Cleveland County. (Okla. Coop. Sur.).

HORSE BOT FLY (Gasterophilus intestinalis) - OKLAHOMA - Heavy and annoying horses in Kay County. (Okla. Coop. Sur.).

A BLACK FLY (Simulium sp.) - COLORADO - Annoying humans in vicinity of Fort Collins; small numbers present. (Thatcher).

DRONE FLY (Eristalis tenax) - UTAH - Larvae found in dairy shed at Elmo, Emery County. (Knowlton, Hanson).

A BLOW FLY (Phaenicia pallescens) - NORTH CAROLINA - Larvae recovered from vomitus of 5-year-old child in Burke County October 1. Child complained of stomach ache for 2 weeks previously. Fever of 101° F. noted October 7. Det. by D. A. Mount. (Reece, Parton).

A SOLDIER FLY (Hermetia illucens) - NORTH CAROLINA - Larvae passed in stool of patient of Pitt County physician August 31. Det. by D. A. Mount. (Travathan).

A FEATHER CHEWING LOUSE (Lipeurus sp.) - RHODE ISLAND - Species, apparently in this genus, heavy on pheasants in Kingston, Washington County. (Durfee, Mathewson).

GIANT HORNET (Vespa crabro germana) - OHIO - Single male collected September 22 in Vinton County; three workers collected July 27 and 2 workers collected August 3 in Scioto County; one worker collected September 22 in Vinton County. These are new county records. Four specimens collected October 10, 1947, by C. A. Reese in Medina County are in the Ohio State University Insect Collection. (Shew).

WASPS - UTAH - Various species, largely Polistes fuscatus, particularly annoying about communities and homes in northern and central areas. Vespula maculata (bald-faced hornet) and Vespula spp. troublesome in local areas. Yellow jackets annoyed fishermen in High Creek and parts of Logan Canyon areas of Cache County. (Knowlton).

HONEY BEE (Apis mellifera) - UTAH - Annoying on Utah State University campus at Logan, Cache County. (Bohart, Knowlton).

TICKS - SOUTH CAROLINA - Quite numerous around roads near marsh on Johns Island, Charleston County. (Nettles el al., Oct. 5). OKLAHOMA - Rhipicephalus sanguineus (brown dog tick) heavy on dogs in Lawson, Comanche County. (Okla. Coop. Sur.).

A BROWN SPIDER (Loxosceles reclusa) - OKLAHOMA - Numerous specimens taken under leaves, boards and other objects around Lake Carl Blackwell, Payne County. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

BOXELDER BUG (Leptocoris trivittatus) - UTAH - Extremely numerous on fourth floor of Utah State Capitol building; numerous on other floors. (Hutchings). Annoying in homes and cabins in canyons east and southeast of Salt Lake City, Salt Lake County. Invaded schoolrooms in Ogden area, Weber County. Large number in air ducts of heating system in State Capitol caused concern. (Knowlton). OKLAHOMA - Entering homes in Cleveland County. (Okla. Coop. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - OHIO - Very numerous in home in Dayton, Montgomery County; number of adults in that home increased within past few weeks. (Wallace, Delaplane). VIRGINIA - Adults entered home in Bedford County. (Isakson, Boone).

COCKROACHES - RHODE ISLAND - Blatta orientalis (oriental cockroach) infested food establishment September 28 and Supella supellectilium (brown-banded cockroach) infested home October 4 in Providence, Providence County. Parcoblatta sp. (a wood cockroach) appearing in homes in Warwick, Kent County, and Providence. (Veilleux).

MOTH FLIES - MARYLAND - Nuisance in homes in Frederick, Fredrick County, and in Baltimore. (U. Md., Ent. Dept.).

MILLIPEDS - WISCONSIN - Continue as principal household pests statewide. (Wis. Ins. Sur.).

LARDER BEETLE (Dermestes lardarius) - MICHIGAN - Adults and larvae submitted from many counties; infested several homes in Cass City. (Dowdy).

INDIAN-MEAL MOTH (Plodia interpunctella) - OREGON - Inquiries and complaints of household infestations more than usual in Williamette Valley. (Every).

OLD-HOUSE BORER (Hylotrupes bajulus) - SOUTH CAROLINA - Damaged floors of 2-century-old house (once occupied by Cornwallis). Close observation underway for additional injury. (Nettles et al., Oct. 5).

A SUBTERRANEAN TERMITE (Reticulitermes sp.) - MARYLAND - Infested building near Centreville, Queen Annes County. (U. Md., Ent. Dept.).

STORED-PRODUCT INSECTS

Stored-product Insects in Maryland - Adults of Stegobium paniceum (drugstore beetle) and adults of Tribolium castaneum (red flour beetle) noted in feed mill at Harmony, Caroline County. (U. Md., Ent. Dept.)

Stored-product Insects in Missouri - Oryzaephilus surinamensis (saw-toothed grain beetle), Typhaea stercorea (a hairy fungus beetle) and Ahasverus advena (foreign grain beetle) collected from stored grain in several counties. (Houser, Thomas).

Stored-product Insects in Oklahoma - Ground cowfeed checked in Payne County showed heavy infestations of Lasioderma serricorne (cigarette beetle) and Plodia interpunctella (Indian-meal moth) and light numbers of Tenebroides mauritanicus (cadelle). (Okla. Coop. Sur.).

BENEFICIAL INSECTS

LADY BEETLES - ILLINOIS - Adults of several species ranged 10-30 (averaged 20) and larvae ranged 0-2 (averaged 0.75) per 100 sweeps in alfalfa in southeast district. (Ill. Ins. Rpt.). COLORADO - Moving up to mountains to hibernate; some active at 8,500 to 9,000 feet altitude in Larimer County. (Thatcher).

PUNCTURE-VINE WEEVILS (Microlarinus spp.) - NEVADA - M. larenyii and M. lypriformis damaged puncture-vine seeds, stems and crowns in Alamo and Callente, Lincoln County. Larvae but no adults observed. (Bechtel, Zoller).

A BIG-EYED BUG (Geocoris bullatus) - RHODE ISLAND - Heavy in lawns of estate in Newport, Newport County; probably predaceous on leafhoppers. (Skogley, Mathewson).

DAMSEL BUGS (Nabis spp.) - ILLINOIS - Varied 40-80 (averaged 60) per 100 sweeps in alfalfa in southeast district. (Ill. Ins. Rpt.).

MISCELLANEOUS INSECTS

EUROPEAN MANTIS (Mantis religiosa) - WASHINGTON - Numerous specimens collected by high school students during fall of 1964. Det. by A. B. Gurney. Reported as quite numerous in Spokane area of Spokane County. Apparently was introduced prior to 1964, as reports indicate the species had been observed earlier. This is a new State record. (Telford). Note originally carried in CEIR 15(41): 1167. (PPC).

A SCORPIONFLY (Panorpa nuptialis) - OKLAHOMA - Adults active for past 2 weeks in eastern part of State; quite numerous in some areas. (Okla. Coop. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - MICHIGAN - Five adults taken in Jackson County blacklight trap evenings of September 21 and 22. (Newman, Stanley).

CORRECTIONS

CEIR 14 (INDEX): 29 - Megaloceraea resticornis should read Megaloceraea recticornis

CEIR 15(38): 1108 - LIGHT-TRAP COLLECTIONS - Maryland, Centreville and Snow Hill - Entries for spp. should be entered under Protoparce.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight; I = incandescent; MV = mercury vapor; O = other)	Agrotis ipsilon (black cutworm)	Capnodasys pomonella (codling moth)	Chrysaeronia auxiliaris (trap cutworm)	Euxoenus arcus (sallow-moth caterpillar)	Faronia diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borrer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
GEORGIA																								
Tifton 9/30-10/6	54-86	0.52	BL							7	80						0	1						
KANSAS																								
Hays 10/5						2																		
Garden City 9/29, 10/1,4						57																		
MASSACHUSETTS																								
East Wareham 9/25-10/1			2BL								5									5				
MISSISSIPPI																								
Stoneville 10/1-7	51-79	0.92	2BL	31					138	5	474					4	62			57	281	70	20	
NEBRASKA																								
Bushnell 9/25-10/1				9		230										19				17				
Chappell 9/21-27				12		52										9				7				
Chappell 9/28-10/4				39		164					17					1				20				
OHIO (Counties)																								
Licking 9/30-10/6			BL	2							17											4		
Wayne 9/30-10/4			BL	4							62					10	10			2				
Franklin 10/3-6			BL	3							21					1				6				
SOUTH CAROLINA																								
Charleston 9/27-10/3			BL	3			0		9	4	73					0	0	0	0	7		10	6	
Charleston 10/4-10			BL	7			0		2	0	20					7	4	0	0	8		0	5	
TEXAS																								
Waco 10/2-8			BL	3			0		63	5	29					20	15			20	47	12	20	
TENNESSEE (Counties)																								
Robertson 9/27-10/4											48					4	12	4		4				
Cumberland 9/27-10/4											176					8	12			20				
Knox 9/27-10/4											68					4	20			12				
Johnson 9/27-10/4											84					12	40			40				
WISCONSIN																								
Mazomanie 10/1-10			BL	2							9					1				9				
Madison 10/1-10			BL	32							15					24				48				
Middleton 10/1-10			BL	3							8					5				3				
De Forest 9/28-10/4			BL	1							57					6				19				
Hancock 10/1-5			BL	3							5					2				0				

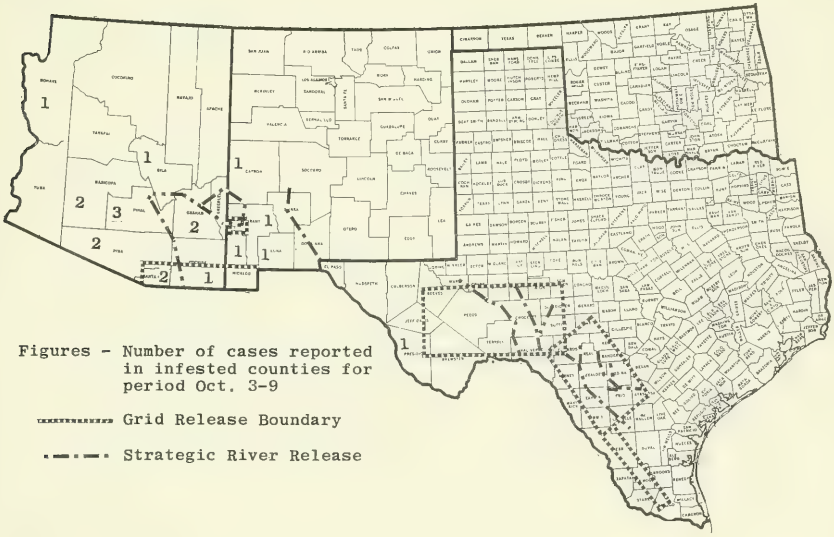
STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period October 3-9 a total of 19 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Presido 1; NEW MEXICO - Catron, Grant, Luna and Hidalgo one each; ARIZONA - Pinal 3, Maricopa, Santa Cruz, Pima and Graham two each, Cochise, Gila and Mohave one each. The Republic of Mexico reported 200 cases: Sonora 129, Chihuahua 53, Territorio sur de Baja California 10, Tamaulipas 4 and Coahuila 1. Sterile screw-worm flies released: Texas 18,176,250, New Mexico 6,180,000, Arizona 15,108,000, and Mexico 63,828,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-state area).						
1963	578	4484	179	5488	322.90	81.70
1964	5	117	134	4837	3.73	2.41
1965	19	800	41	4025	46.34	19.87
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	189	2916	42	1582	450.00	184.32
1965	216	4331	39	1851	553.84	233.98

Feasibility Survey - During this period 198 cases were identified in Mexico south of the Barrier Zone. (Anim. Health Div.)

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Maryland (State or District) DURING 1964 (Year)

ATTACKING Apples (Commodity or Crop)

A. Pest or pest complex: Codling moth, aphids, mites

B. Number of acres[a] produced (From CRS) No. 1,480,000 bu.

C. Average yield per ----[a] (From CRS) Units/ ----

D. Price[b] per unit (bu.)[c] (From CRS) $/ 2.00

E. ----[a] needing control No. all (commercial)

F. ----[a] treated No. all (commercial)

G. Reduction due to not treating where needed:

H. Loss in yield, percent % ----

I. Loss in yield, units per ----[a], C x H Units/ ----

J. Loss in yield, $ per ----[a], D x I $/ ----

K. Loss in quality, $ per ----[a] $/ ----

L. Yield loss for all ----[a], (E-F) x I Units ----

M. Control cost, $ per bu.[a], $/ 0.25

N. Control cost for all bu.[a], F x M $ 370,000

O. Yield loss for all ----[a], (E-F) x J $ ----

P. Quality loss for all ----[a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 370,000 *

R. Percent loss due to each insect in the complex:

Comment: * Cost of control only. Spider mites were the most important pest of apples during 1964.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Wallace C. Harding, Jr.

Date June 22, 1965

ATTACKING Tomatoes (processing) (Commodity or Crop)

A. Pest or pest complex: Flea beetles, cutworms, Colorado potato beetle, hornworms, aphids

B. Number of acres[a] produced (From CRS) No. 7,200

C. Average yield per acre[a] (From CRS) Units/ 13.00 tons

D. Price[b] per unit (ton)[c] (From CRS) $/ 32.30

E. Acres[a] needing control No. 7,200

F. Acres[a] treated No. 4,000

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 20

I. Loss in yield, units per acre[a], C x H Units/ 2.6 tons

J. Loss in yield, $ per acre[a], D x I $/ 83.98

K. Loss in quality, $ per ----[a] $/ ----

L. Yield loss for all acres[a], (E-F) x I Units 8,320 tons

M. Control cost, $ per acre[a], $/ 12.00

N. Control cost for all acres[a], F x M $ 48,000

O. Yield loss for all acres[a], (E-F) x J $ 268,736

P. Quality loss for all ----[a], (E-F) x K $ ----

Q. Combined control cost and losses, N + O + P $ 316,736 *

R. Percent loss due to each insect in the complex: Colorado potato beetle and hornworms 50; others 50

Comment: * Estimate does not include loss from reduction in quality.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Wallace C. Harding, Jr.

Date June 22, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

ATTACKING Tobacco (Commodity) IN Maryland (State or District) DURING 1964 (Year)

A. Pest or pest complex: Green peach aphid, flea beetles, hornworms, budworms

B. Number of acres [a] produced (From CRS)	No.	39,000
C. Average yield per acre [a] (From CRS)	Units/	1,000 lb.
D. Price[b] per unit (lb.)[c] (From CRS)	$/	0.43 (1963 season average price)
E. Acres [a] needing control	No.	39,000
F. Acres [a] treated	No.	30,000
G. Reduction due to not treating where needed:		
H. Loss in yield, percent	%	20
I. Loss in yield, units per acre [a], C x H	Units/	200 lb.
J. Loss in yield, $ per acre [a], D x I	$/	86.00
K. Loss in quality, $ per ---- [a]	$/	----
L. Yield loss for all acres [a], (E-F) x I	Units	1,800,000 lb.
M. Control cost, $ per acre [a]	$/	6.00
N. Control cost for all acres [a], F x M	$	180,000
O. Yield loss for all acres [a], (E-F) x J	$	774,000
P. Quality loss for all ---- [a], (E-F) x K	$	----
Q. Combined control cost and losses, N + O + P	$	954,000 *

R. Percent loss due to each insect in the complex: Green peach aphid 50; flea beetles 25; hornworms and budworms 25.

Comment: * Estimate does not include loss from reduction in quality.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Wallace C. Harding, Jr.

Date June 22, 1965

ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Oklahoma (State or District) DURING 1964 (Year)

ATTACKING Alfalfa (Commodity or Crop)

A. Pest or pest complex: Pea aphid, spotted alfalfa aphid, webworms, cutworms, grasshoppers, armyworms

B. Number of acres [a] produced (From CRS) No. 520,000

C. Average yield per acre [a] (From CRS) Units/ 2.2 tons

D. Price[b] per unit (ton)[c] (From CRS) $/ 23.50

E. Acres [a] needing control No. 187,044

F. Acres [a] treated No. 46,667

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 18

I. Loss in yield, units per acre [a], C x H Units/ 0.396 tons

J. Loss in yield, $ per acre [a], D x I $/ 9.31

K. Loss in quality, $ per ---- [a] $/ ----

L. Yield loss for all acres [a], (E-F) x I Units 55,589.3 tons

M. Control cost, $ per acre [a], $/ 2.86

N. Control cost for all acres [a], F x M $ 133,467.62

O. Yield loss for all acres [a], (E-F) x J $ 1,306,909.87

P. Quality loss for all ----- [a], (E-F) x K $ -----

Q. Combined control cost and losses, N + O + P $ 1,440,377.49

R. Percent loss due to each insect in the complex: Pea aphid 36, spotted alfalfa aphid 19, webworms 7, cutworms 7, grasshoppers 6, armyworms 4, others 21.

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Don C. Arnold

Date August 27, 1965

ATTACKING Cotton (Commodity or Crop)

A. Pest or pest complex: Bollworm, boll weevil, fleahoppers, thrips, aphids

B. Number of acres [a] produced (From CRS) No. 575,000

C. Average yield per acre [a] (From CRS) Units/ 239 lb.

D. Price[b] per unit (lb.)[c] (From CRS) $/ 0.279

E. Acres [a] needing control No. 364,838

F. Acres [a] treated No. 198,129

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 34

I. Loss in yield, units per acre [a], C x H Units/ 81.26 lb.

J. Loss in yield, $ per acre [a], D x I $/ 22.67

K. Loss in quality, $ per ---- [a] $/ -----

L. Yield loss for all acres [a], (E-F) x I Units 13,546,773 lb.

M. Control cost, $ per acre [a], $/ 9.48

N. Control cost for all acres [a], F x M $ 1,878,262.92

O. Yield loss for all acres [a], (E-F) x J $ 3,779,293.03

P. Quality loss for all ----- [a], (E-F) x K $ -----

Q. Combined control cost and losses, N + O + P $ 5,657,555.95

R. Percent loss due to each insect in the complex: Bollworm 40, boll weevil 34, fleahoppers 8, thrips 6, aphids 3, others 9.

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Don C. Arnold

Date August 27, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

Volume 15 October 22, 1965 Number 43

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

EUROPEAN CORN BORER extremely heavy and damaging to late-planted corn in northern Alabama. SOUTHERN CORN ROOTWORM damaged rye at several locations on Eastern Shore of Virginia, and severe lodging by WESTERN CORN ROOTWORM observed in Custer County, Nebraska. (pp. 1203,1204). SPOTTED ALFALFA APHID remains high on alfalfa in southwestern Arizona; sexual forms found for second year in Wyoming. (p. 1205). ALFALFA CATERPILLAR increasing on alfalfa in Dome Valley area, Arizona, (p. 1206), and adults abundant in most alfalfa in Lea County, New Mexico, (p. 1214).

CABBAGE LOOPER, a problem on vegetable crops on Virginia's Eastern Shore during late September, now appears on decline; increasing populations continue to damage lettuce in Arizona. (p.1207). ZEBRA CATERPILLAR and VARIEGATED CUTWORM extremely damaging to sugar beets in Washington; controls applied to reduce economic losses of sugar content. (p. 1208).

PINK BOLLWORM ranged light to exceptionally heavy in cotton in New Mexico; approximately 45 percent of green bolls infested in more heavily infested fields. Moths taken for first time in Yuma County, Arizona. (p. 1209). MOSQUITOES heavy and annoying in some States. (pp. 1211, 1212).

DETECTION

New county records include: SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) in Dallas and Madison Counties, Alabama, (p. 1203); PINK BOLLWORM (*Pectinophora gossypiella*) moths in Yuma County, Arizona, (p. 1209); ASIATIC OAK WEEVIL (*Cyrtepistomus castaneus*) in Pulaski County, Missouri, (p. 1210); FACE FLY (*Musca autumnalis*) in Tooele County, Utah, (p. 1212); and GIANT HORNET (*Vespa crabro germana*) in Brown and Monroe Counties, Indiana, (p. 1214).

CORRECTIONS and ADDITIONAL NOTES

See page 1214.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1216).

Reports in this issue are for the week ending October 15 unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-OCTOBER TO MID-NOVEMBER 1965

The Weather Bureau's 30-day outlook for the period from mid-October to mid-November calls for temperatures to average below seasonal normals over the eastern quarter of the Nation and over the South westward to the Southern Plains. Above normal averages are anticipated over the Plateau Region, the Northern and Central Plains and the upper Mississippi Valley. Elsewhere near normal temperatures are in prospect. Rainfall is expected to exceed normal over the Gulf Coast Region and East Coast States. Subnormal amounts are called for from California eastward through the Central Plateau, the Central Plains, and the middle Mississippi Valley. Elsewhere near normal rainfall is indicated.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

WEATHER OF THE WEEK ENDING OCTOBER 18

HIGHLIGHTS: (1) Mild and sunny, Central and East. (2) Record rains Miami area. (3) Some heavy snows in western mountains.

TEMPERATURE: Weekly temperatures were near or slightly above normal in most sections with the warmest in the Central and South. Most days were sunny with pleasant dry weather. Temperatures had a rising trend in the East but fell late in the week in most Western areas. Highs in the 80's reached north to Wisconsin and Pennsylvania.

FREEZING: While the general freeze line showed no general advance, there were hard local freezes in parts of eastern Kansas, southwestern Missouri, and northeastern Oklahoma.

PRECIPITATION: Rainfall was very unevenly distributed over the Country and mostly of short duration. The exception was the Pacific Northwest where early season rains occurred almost daily. Also an upper level Low caused cloudiness and rain in the Southwest late in the week. There was little or no rain in the Northern Plains and in much of the South and Southeast. The Great Lakes and northern Appalachian areas were moderately wet and an uneven band of heavy showers extended from Utah eastward to St. Louis, Missouri. New England received light to moderate amounts while a narrow strip of coastal Florida north of Miami received record amounts.

SNOWFALL: Up to 2 inches of snow was reported from northern Michigan. In the West, several inches of snow covered the higher mountains. Northern Arizona received 8 inches and in New Mexico there was even 10 inches at Santa Fe. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CORN EARWORM (Heliothis zea) - NEVADA - Larvae and damage heavy on corn ears in northern Dixie Valley of Pershing County. (Ferraro, Martinelli). NEBRASKA - Larvae found feeding in late field corn in Custer County. (Rhine). ARKANSAS - Remains present in alfalfa in northwest, but numbers low; ranged 5-10 per 100 sweeps. (Ark. Ins. Sur.). ALABAMA - Of 28 larvae collected from 2 heavily infested fields of soybeans in Covington County, 9 determined as H. zea by Dr. Cunningham. (Pike). OHIO - Severe in field of corn observed near Sandy Springs, Adams County; infested all of 20 ears checked. Corn late in reaching maturity; more advanced field corn in vicinity not infested. (Rose).

FALL ARMYWORM (Spodoptera frugiperda) - VIRGINIA - Outbreak occurring on rye throughout Eastern Shore; controls necessary. (Hofmaster, Oct. 7). KANSAS - None found in corn checked in northern tier of counties east of Jewell County. (Simpson). TEXAS - Light to moderate locally in fields of small grain in Kaufman County. (Turney).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ILLINOIS - None found during survey conducted September 28-29 in Randolph and Jackson Counties. Survey conducted October 11-14 revealed no evidence of this pest in Jackson and Saline Counties, nor in single field checked in Pope County. Infestations in known infested counties, as follows: Alexander - infested 100 percent of fields checked; 2-18 (average 9.45) percent of corn plants infested, which means that with mechanical pickers 9.45 percent of corn in county will be lost to this pest. Pulaski - 83 percent of fields infested with 0-2 (average 1.33) percent of plants infested; Massac - 80 percent of fields infested with 0-1 (average 0.8) percent of plants infested. About 50 percent of larvae in area in white (winter) form and 50 percent in spotted (summer) form. Pest first found in State at Urbandale, Alexander County, in 1963. (Ill. Ins. Sur.). ALABAMA - Survey to determine eastward movement complete, except in Lowndes County. Light infestations observed in Dallas and Madison Counties. These are new county records. No infestations observed in Mobile, Baldwin, Monroe, Wilcox, Autauga, Chilton, Coosa, Talladega, St. Clair, Etowah, Marshall and Jackson Counties. Movement apparently somewhat slower than during past few years. (Davis, Robertson et al.). OKLAHOMA - Larvae in white (winter) form in dead cornstalks checked in Delaware County; averaged 1 per 10 stalks. (Okla. Coop. Sur.). TEXAS - Heavy, local damage to corn observed in research test plots at Chillicothe in Hardeman County and at Plainview in Hale County. (Chada).

SOUTHERN CORNSTALK BORER (Diatraea crambidoides) - ALABAMA - Numerous larvae taken during survey for Zeadiatraea grandiosella (southwestern corn borer) in Madison, Marshall and Etowah Counties. Larvae entering diapause in corn roots. (Davis, Robertson et al.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - MINNESOTA - Preliminary results of fall abundance survey indicate drop in populations in nearly all areas surveyed. Generally, first generation was moderate and second generation almost completely lacking in most areas of State. (Minn Ins. Rpt.). NORTH DAKOTA - Results of 1965 fall survey show 64.53 percent of plants infested compared with 61.12 percent in 1964 and 95.31 percent in 1963; borers per infested plant averaged 1.08, compared with 1.61 in 1964 and 3.99 in 1963; borers per 100 plants averaged 84.07, compared with 125.45 in 1964 and 391.49 in 1963. (Frye). SOUTH DAKOTA - Fall abundance survey completed in Beadle, Deuel, Hamlin and Kingsbury Counties. Larval populations low in Beadle County and most of Kingsbury County; infestation 100 percent in field sampled west of Arlington, Kingsbury County, where larvae averaged 550 per 100 corn plants. Little damage to corn crop evident in Hamlin County where sampled fields averaged 200 larvae per 100 stalks; however, considerable damage noted in 3 of 4 fields sampled in Deuel County. Majority of larvae now in third stage. (Jones). ALABAMA - Extremely heavy infestations and damage observed in many fields of late-planted corn in northern area, especially in

Jackson, Madison, Marshall and Etowah Counties. Older corn appears not to be damaged. No damage to corn observed in Talladega, Coosa and Autauga Counties. (Davis, Robertson).

CORN ROOTWORMS (Diabrotica spp.) - NEBRASKA - Severe lodging due to D. virgifera (western corn rootworm) observed in field of corn in Custer County. Adults of D. longicornis (northern corn rootworm) still feeding on corn silks in some areas of this county. (Rhine). SOUTH DAKOTA - D. virgifera present in corn in Yankton, Charles Mix and Hutchinson Counties. Majority of adults observed in or near groups of cobs on ground. (Jones). OHIO - D. undecimpunctata howardi (southern corn rootworm) adults common in alfalfa in south central and southwestern counties; 10 per 25 sweeps taken in field in Ross County and 4-6 per 25 sweeps collected in Jackson, Scioto and Brown Counties. (Rose). VIRGINIA - Damage to rye by D. undecimpunctata howardi observed in several locations near Painter, Accomack County. Roots and underground portions of stems attacked. Injury not yet widespread and appears confined to localized areas. (Hofmaster, Oct. 7).

RICE WEEVIL (Sitophilus oryzae) - ALABAMA - Absence of this pest in ears of corn in fields from St. Clair County northward to State line most noticeable. This serious pest of stored grains in central and southern parts of State not observed in any fields. (McQueen).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Winged adults occasionally noted in wheat checked in Nowata County. (Okla. Coop. Sur.).

FIELD CRICKETS (Gryllus spp.) - NORTH DAKOTA - Trace numbers found during survey of swathed and standing small grains in northeast area. Same situation observed in flax and alfalfa. No unusual or late season insect problems encountered during survey. Wet conditions appear to be keeping cricket populations at low level. (Frye, Oct. 8).

HESSIAN FLY (Mayetiola destructor) - KANSAS - Larvae and flaxseed stage present in trace amounts (0.5-1 percent) in Cloud, Republic and Washington Counties. Found in volunteer wheat only; planted wheat free of infestation. Many small larvae found in volunteer wheat in Dickinson County. Heavy infestations found in volunteer wheat in Rooks County. (Somsen).

WHEAT CURL MITE (Aceria tulipae) - KANSAS - Scattered infestations found in volunteer wheat in Clay, Cloud, Republic and Washington Counties. Streak mosaic symptoms not yet apparent. In 27 collections of volunteer wheat from Meade County, infestation heavy in 9 collections, with mites moving about on plants; trace infestations found in 5 collections. Other samples badly wilted and examination for mites very difficult. (Somsen, Harris).

GRASSHOPPERS - SOUTH DAKOTA - Melanoplus femurrubrum (red-legged grasshopper), M. bivittatus (two-striped grasshopper) and M. differentialis (differential grasshopper) active in field borders of corn and alfalfa and at road edges in Deuel, Hamlin, Kingsbury, Beadle, Clark, Charles Mix, Hutchinson and Yankton Counties. Adults ranged 10-15 per square yard in most areas checked. (Jones). WISCONSIN - Most females of M. femurrubrum and M. differentialis examined contained eggs. M. femurrubrum very common along roadsides; neither species common in crops. (Wis. Ins. Sur.). OHIO - Survey indicates grasshopper distribution and populations declined in 1965 compared with 1964. Counts averaged less than 1 per square yard throughout most of northern part of State. Populations highest in south and southeast sections, where counts ranged 3-10 per square yard. (Warnke). OKLAHOMA - Grasshoppers reported moderate in small grain and legumes in Comanche County. (Okla. Coop. Sur.). COLORADO - M. femurrubrum numerous on desiccating kochia on rangeland in Larimer County. (Wellso). UTAH - Some grasshoppers still active in northern localities; mostly M. sanguinipes (migratory grasshopper). (Knowlton).

BLACK CUTWORM (Agrotis ipsilon) - TEXAS - Feeding on small plot of Bermuda grass in Nacogdoches County. (Caskey).

BILLBUGS (Sphenophorus spp.) - WASHINGTON - S. cicatristriatus causing scattered damage to lawn in Kennewick, Benton County. This pest has subsided considerably since first recorded in State in 1963. (Wash. Coop. Rpt.). MARYLAND - Larvae of Sphenophorus sp. caused heavy damage to zoysia grass in lawn in Riverdale, Prince Georges County. (U. Md., Ent. Dept.).

TEN-LINED JUNE BEETLE (Polyphylla decemlineata) - WASHINGTON - First, second and third-season larvae damaging 40 acres in irrigated orchard grass pastures near Quincy, Grant County. (Wash. Coop. Rpt.).

A SPITTLEBUG (Prosapia bicincta) - ALABAMA - Heavy in Coastal Bermuda grass along Interstate Highway 65 in Butler, Conecuh and Escambia Counties; controls being applied. (Lemons, Daniel, Smith).

A THRIPS (Chirothrips sp.) - ARIZONA - Heavy infestations detected on Bermuda grass in Wellton area, Yuma County. (Ariz. Coop. Sur).

A SPIDER MITE (Tetranychus sp.) - ARIZONA - Continues to damage fields of Bermuda grass in Yuma County. Some controls necessary. (Ariz. Coop. Sur.).

PEA APHID (Acyrthosiphon pisum) - WASHINGTON - All stages, including alates, present on forage and seed alfalfa as follows: 12 per 100 sweeps at Mabton, Benton County; 10 per sweep at Pasco, Benton County; 20 per sweep at Walla Walla, Walla Walla County. (Halfhill). UTAH - Populations in alfalfa low to moderate in fields checked in Box Elder, Weber, Salt Lake and Tooele Counties. (Knowlton). WYOMING - Adults and nymphs ranged 24-60 per 100 sweeps in alfalfa in Goshen and Laramie Counties. (Marks). KANSAS - Averaged 60 per 25 sweeps in alfalfa in Nemaha, Marshall, Washington and Republic Counties. (Simpson). ARKANSAS - Counts in alfalfa remain zero to very low in northwest area. Dry weather may be factor. (Ark. Ins. Sur.). WISCONSIN - Populations relatively high in many fields of alfalfa. Males common; oviparous forms present. Nymphs being produced by apterous and alate forms. (Wis. Ins. Sur.). OHIO - Populations in alfalfa declining; however, averaged approximately 10 per sweep in one Scioto County field. Numbers insignificant in other fields checked. Nabis ferus (a damsel bug) most common predator observed; averaged nearly 1 per sweep in one field. (Rose).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Counts remain high in alfalfa in Yuma Valley and in Chandler-Gilbert area of Maricopa County; averaged 4 per trifoliate leaf in infested fields. (Ariz. Coop. Sur.). NEVADA - Heavy on variety of seed alfalfa in northern Dixie Valley, Pershing County; large amounts of honeydew noted on ground. (Ferraro, Matrinelli). UTAH - Present in Box Elder, Weber and Tooele Counties for first time this season; populations low, however. (Knowlton). WYOMING - Sexual forms found in Goshen County for second year. Adults and nymphs ranged 46-100 per 100 sweeps in alfalfa in Goshen and Laramie Counties. (Manglitz, Marks). IDAHO - Light on Elmore County alfalfa. (Edwards). OKLAHOMA - Very light in alfalfa checked in northeast area; averaged 2 per 10 sweeps in Washington County. (Okla. Coop. Sur.). ARKANSAS - None found in alfalfa surveyed in northwest area. (Ark. Ins. Sur.). WISCONSIN - Populations remain very low in alfalfa; oviparous forms appearing. Populations too low to find males, although some undoubtedly present. (Wis. Ins. Sur.). OHIO - Two, winged adults taken in 25 sweeps in field of alfalfa near Manchester, Adams County. This is second southwestern county where species taken this season. Reported from Butler County in CEIR 15(42): 1185. (Rose).

TARNISHED PLANT BUG (Lygus lineolaris) - OHIO - Averaged over 1 per sweep in field of alfalfa in Ross County; averaged 5 and 8 per 25 sweeps in Adams and Brown Counties, respectively. (Rose).

LYGUS BUGS (Lygus spp.) - UTAH - Populations now light in alfalfa in Erda-Tooele area of Tooele County; nearly all adults. (Knowlton). WYOMING - Adults averaged 26 per 100 sweeps in alfalfa in Goshen and Laramie Counties. (Marks).

STINK BUGS - MISSOURI - Acrosternum hilare (green stink bug) reported heavy in some Jasper County soybeans; no counts made. (Jaynes). ALABAMA - Adults and nymphs of Nezara viridula (southern green stink bug) heavy and localized on pods of late soybeans in Grand Bay and St. Elmo areas of Mobile County. (Dillier, Seibels). SOUTH CAROLINA - Heavy buildup of unspecified species noted in Jasper County soybeans. (Tate, Nettles, Oct. 11).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Nymphs still present in some alfalfa; adults and nymphs averaged 6 per sweep in one field. (Wis. Ins. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus)- ARKANSAS - Continues active in northwest area alfalfa, but numbers low. (Ark. Ins. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Larval counts increasing in alfalfa in Dome Valley area, Yuma County, and Buckeye and Chandler areas of Maricopa County. Decreases observed in other alfalfa-growing areas. (Ariz. Coop. Sur.). ARKANSAS - Larval numbers low in alfalfa in northwest; range 5-10 per 100 sweeps. Adult numbers, high 2 weeks previously, declined from very low to zero. (Ark. Ins. Sur.).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - SOUTH CAROLINA - Unusually damaging to late-planted soybeans in Jasper County. (Tate, Nettles, Oct. 11.). ALABAMA - Of 28 larvae collected from 2 heavily infested fields of soybeans in Covington County, 3 determined this species by Dr. Cunningham. (Pike).

GREEN CLOVERWORM (Plathypena scabra) - MICHIGAN - Eight adults taken in black-light trap in Livingston County on October 14. This first night, recently, temperatures favorable for moth flight. (Newman). ARKANSAS - Numbers dropped in northwest area alfalfa; ranged 10-15 per 100 sweeps. (Ark. Ins. Sur.). ALABAMA - Of 28 larvae collected from 2 heavily infested fields of soybeans in Covington County, 3 determined this species by Dr. Cunningham. (Pike).

ALFALFA WEEVIL (Hypera postica) - OHIO - Surveys of alfalfa in south central and southwest counties indicated variable populations. Largest number of adults observed in Jackson County field; averaged 1 per 2 sweeps. No larvae collected in Jackson and Scioto Counties; averaged 1 larva per 5 sweeps in Brown County. Insignificant adult numbers taken in Adams and Scioto Counties. (Rose). In Columbiana County, 2 adults and 2 larvae taken in 10 double sweeps during day and 40 adults and 2 larvae in same number of sweeps at night. (Niemczyk, Flessel)

CLOVER ROOT CURCULIO (Sitona hispidula) - MISSOURI - Mating and egg laying still occurring in Boone County alfalfa. (Crow).

FRUIT INSECTS

WALNUT CATERPILLAR (Datana integerrima) - OKLAHOMA - Causing moderate damage to native black walnut and Carpathean walnut in Major County. (Okla. Coop. Sur.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Reported moderate on pecans in Mayes County. (Okla. Coop. Sur.).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Infestations light on pecans in Mayes County. (Okla. Coop. Sur.).

A SPIDER MITE (Eotetranychus hicoriae) - FLORIDA - Adults caused severe damage to pecan at Plant City, Hillsborough County. (Custead, Oct. 1).

Quarterly Insect and Mite Outlook in Florida - October through December - This outlook is based on the assumption that weather beyond the period of the current U. S. Weather Bureau's 30-day outlook will be normal. Therefore, the forecast given below cannot be viewed with the same degree of confidence as those in the "Citrus Insect and Disease Summary" usually released twice each month.

CITRUS RUST MITE (Phyllocoptruta oleivora) increase to above average level expected in most districts during October and November with decrease in December. Important infestations will occur in 50-60 precent of groves. Gradual increase of CITRUS RED MITE (Panonychus citri) and TEXAS CITRUS MITE (Eutetranychus banksi) will occur through November then decline. Populations not expected to exceed normal for fall months. Although only scattered groves will have high populations of one of these species, 20-30 percent of groves will have single or combined populations in moderate to heavy range. GLOVER SCALE (Lepidosaphes gloverii) and YELLOW SCALE (Aonidiella citrina) will increase gradually in October and November to above average abundance. Statewide population expected to hold at moderate level in December. Only scattered groves will have damaging infestations. CHAFF SCALE (Parlatoria pergandii) will increase but expected to be less prevalent than normal. (W. A. Simanton, (Citrus Expt. Sta., Lake Alfred)).

POTATO LEAFHOPPER (Empoasca fabae) - MICHIGAN - Adults remain active on blueberries in southwest section. (Burger).

A LEAF BLOTCH MINER (Gracilaria vacciniella) - MICHIGAN - Larvae still active on blueberries in southwest section after heavy frosts. (Newman, Burger).

GREEN PEACH APHID (Myzus persicae) - COLORADO - Fall migrants returning to peach orchards on Western Slope. Some colonies of laying forms present, with 2-10 young per colony. (Bulla).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - WISCONSIN - Colonies reappearing on overwintering apple host. (Wis. Ins. Sur.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - COLORADO - Noted in Olathe area of Delta County and in some orchards in Mesa County. (Bulla).

PEAR PSYLLA (Psylla pyricola) - WASHINGTON - Postharvest infestations heavy in several pear orchards in Yakima area; all nymphal stages and adults present. (Wash. Coop. Rpt.).

APPLE MAGGOT (Rhagoletis pomonella) - NORTH DAKOTA - Damage to apples evident in fruit received from Valley City, Barnes County, and from other areas of State. (Dogger).

SAN JOSE SCALE (Aspidiotus perniciosus) - VIRGINIA - Infesting apple trees in commercial orchard in Rappahannock County. (Hill).

FORBES SCALE (Aspidiotus forbesi) - VIRGINIA - This species and Chionaspis furfura (scurfy scale) very light and scattered in apple orchards in northern portion of State. C. furfura males noted on cherry trees at a Frederick County location. (Hill).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) VIRGINIA - Continues real problem on Eastern Shore. Very dry and hot weather in late September most unfavorable for insecticidal or virus action. Problem appears on decline at present. (Hofmaster, Oct. 7). ALABAMA - Light to heavy larval infestations of this species and Pieris rapae (imported cabbageworm) occurring on collards in home gardens in central and northern counties. (Davis, Robertson et al). ARIZONA - Increasing populations continue to damage lettuce in Maricopa, Pinal and Yuma Counties. Control efforts increased. (Ariz. Coop. Sur.). NEW MEXICO - Heavy in field

of cabbage east of Lovington, Lea County. Field also heavily infested with aphids, probably Brevicoryne brassicae (cabbage aphid). (Nielsen).

TOMATO FRUITWORM (Heliothis zea) - ARIZONA - Light infestations found on lettuce in areas of Maricopa and Pinal Counties. Controls required in few fields. (Ariz. Coop. Sur.). SOUTH CAROLINA - Several severe infestations observed on tomatoes in greenhouses. (Smith, Oct. 12).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Infestations on lettuce continue to require controls in areas of Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

ZEBRA CATERPILLAR (Ceramica picta) - WASHINGTON - Larvae of this pest and Peridroma saucia (variegated cutworm) abundant and extremely damaging to sugar beets in Kennewick (Benton County) and Quincy (Grant County) areas, respectively; controls applied because economic losses of sugar content would occur in 2-4 weeks remaining to harvest. (Wash. Coop. Rpt.).

HAWAIIAN BEET WEBWORM (Hymenia recurvalis) - VIRGINIA - Occasional larva noted on spinach on Eastern Shore. Not too common in this area; more so on Norfolk side of Chesapeake Bay. (Hofmaster, Oct. 7).

SWEETPOTATO FLEA BEETLE (Chaetocnema confinis) - MARYLAND - Adults abundant and causing conspicuous injury to foliage of sweetpotato in Wicomico County. Larval injury to harvested roots relatively light. (U. Md., Ent. Dept.).

DESERT CORN FLEA BEETLE (Chaetocnema ectypa) - ARIZONA - Adults caused light damage to vegetables in scattered fields in Peoria area, Maricopa County. (Ariz. Coop. Sur.).

HARLEQUIN BUG (Murgantia histrionica) - VIRGINIA - Found on most truck crops grown on Eastern Shore but generally not in damaging numbers. (Hofmaster, Oct. 7). ALABAMA - Light on turnips and collards in few home gardens in Coosa and Morgan Counties. (McQueen).

GARDEN SYMPHYLAN (Scutigerella immaculata) - IDAHO - Found infesting additional field of sugar beets in Canyon County. (Homan, Hall).

COTTON INSECTS

BOLLWORMS (Heliothis spp., et al.) - ALABAMA - Plentiful in larger squares and late cotton bolls. (McQueen). NEW MEXICO - Bolls damaged by H. zea noted in many fields of cotton checked in Luna, Eddy and Lea Counties. (N. M. Coop. Rpt.). ARIZONA - Moderate H. zea (bollworm) populations continue to damage top crop in Pinal, Pima and Maricopa Counties and in Texas Hill area of Yuma County. (Ariz. Coop. Sur.). CALIFORNIA - Present in most cotton in Imperial County; range from lows of 1-4 larvae per 100 plants up to 50 per 100 plants in few fields. (Campbell, Oct. 6). Remain prevalent in many areas of Kern County; however, populations should be of no or little concern as most of crop is reaching full growth. (Black, Oct. 6). Continue evident in some cotton in San Joaquin Valley; although counts range as high as 125-150 larvae per 100 plants, bolls generally so advanced no threat to crop exists. (Leigh, Oct. 8).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Populations remain constant in cotton areas of Yuma, Maricopa, Pinal and Pima Counties. Decrease in numbers observed in Graham County cotton. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Evident in some cotton in San Joaquin Valley; virus disease providing effective control in several instances. (Leigh, Oct. 8).

COTTON LEAF PERFORATOR (Bucculatrix thurberiella) - ARIZONA - Populations increasing on cotton in most areas of Yuma County. Some scattered infestations continue to increase in Maricopa and Pinal Counties. (Ariz. Coop. Sur.). CALIFORNIA - Populations generally low in Imperial County cotton, although treatment required in few fields. (Campbell, Oct. 6).

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Twelve moths taken in sex-lure traps in Yuma County. This is a new county record. Moths taken in Hyder, Aztec, Texas Hill and Roll areas. No larvae found in gin trash or field inspections at this time in Yuma County. New infestations continue to be found in Graham, Pinal and Maricopa Counties. (Ariz. Coop. Sur.). NEW MEXICO - Ranged light to exceptionally heavy in cotton. Few fields damaged to extent growers probably will not harvest. Many growers becoming very concerned. (Kloepfer, Harrison). Damage ranged zero to heavy in Luna County. In one of most heavily infested fields, approximately 45 percent of green bolls infested. (Hare). TEXAS - Moderate, local infestations observed in Brazos County cotton. (Texas Coop. Rpt., Barrom).

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Larvae, pupae and adults rather heavy in cotton squares in top bolls in Madison, Jackson and other northern counties. Harvest appears later than normal; stalk destruction not observed in any field from northern part of State to as far south as Autauga County. (McQueen). TEXAS - Heavy, widespread populations reported in cotton in Stonewall County. Light to heavy, widespread populations present over widespread area of King and Cottle Counties; populations locally moderate in Brazos County cotton. (Texas Coop. Rpt.).

COTTON APHID (Aphis gossypii) - ALABAMA - Heavy in most fields of cotton observed in northern counties; however, causing no damage. (McQueen). CALIFORNIA - Minor infestations noted in few fields in Imperial County. (Campbell, Oct. 6). Extremely abundant in some cotton in Kern County; honeydew heavy on foliage and lint in many fields. (Black, Oct. 6). Remains evident on cotton in many fields in San Joaquin Valley; honeydew on fiber resulted in growth of sooty mold and blackening of lint in few instances. Parasites abundant in most fields and controls not necessary. (Leigh, Oct. 8).

STINK BUGS - CALIFORNIA - Occasional heavy infestation in cotton, with damage to late-set bolls, noted in Imperial County. (Campbell, Oct. 6). Euschistus conspersus evident in some fields of cotton adjacent to seed alfalfa in San Joaquin Valley. Boll feeding evident only in very few instances. (Leigh, Oct. 8). NEW MEXICO - Adults, mostly Chlorochroa ligata (conchuela), occasionally noted in cotton near Hermanas, Luna County. (Hare).

TARNISHED PLANT BUG (Lygus lineolaris) - ALABAMA - Plentiful in cotton throughout northern area; feeding on squares. (McQueen).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Populations range from zero to very light in all cotton inspected in Luna County. (Hare). Green lacewings (Chrysopa spp.) and lady beetles very light in Luna County fields. (N. M. Coop. Rpt.).

SPIDER MITES - ALABAMA - Heavy in most fields of cotton checked in northern part of State, but apparently causing no damage. (McQueen). CALIFORNIA - Populations generally light in few fields of cotton in Imperial County. (Campbell, Oct. 6).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - ALABAMA - Damage isolated groups of injured pines around building sites throughout much of State; less active than during midsummer. (McQueen). MISSOURI - Infested 4 shortleaf pines in area of Vulcan towersite, Iron County. Trees cut and burned. (Glass, Capps, Sept. 21).

A RHIPICERID BEETLE (Sandalus sp.) - KANSAS - Noted on evergreens at Abilene. (Reading).

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - ALABAMA - Last generation pupated throughout central and northern areas. Damaged local road planting of pines 4-6 years old in Autauga County. Damage to tops heavy; 2-6 pupae per tip noted. (McQueen).

ZIMMERMAN PINE MOTH (Dioryctria zimmermani) - MICHIGAN - Larvae heavy in pine plantation in Marquette County. (Nyquist, Newman).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - MISSOURI - Infested pine in nursery in Columbia, Boone County. (Brown). MARYLAND - Heavy on large white pine at University Park, Prince Georges County. (U. Md., Ent. Dept.).

FALL CANKERWORM (Alsophila pometaria) - NORTH DAKOTA - First females of season observed at Fargo; initial emergence followed closely that of past 2 years. (Frye, Oct. 8). MICHIGAN - Females active in Ingham County. (Hoffman, Oct. 13).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Damage continues in many areas. (Okla. Coop. Sur.).

VARIABLE OAK LEAF CATERPILLAR (Heterocampa manteo) - KANSAS - Large numbers noted on pin oaks and on some bur oaks west of Wichita. (Reading).

UGLY-NEST CATERPILLAR (Archips cerasivoranus) - MISSOURI - Infested northern red oak sapling in House Spring area, Jefferson County. (Gass, Capps, Sept. 11).

A SWALLOWTAIL BUTTERFLY - UTAH - Larvae defoliated ash trees at Ogden, Weber County, from mid-September into October. (Fronk, Knowlton).

ARMORED SCALES - VIRGINIA - Lepidosaphes ulmi (oystershell scale) infested Chinese chestnut in home yard in Montgomery County. (Helper, Oct. 7). Chrysomphalus bifasciculatus infested holly in Hampton; det. by S. P. Yang and M. Kosztarab. (Isakson). FLORIDA - All stages of Unaspis citri infested and severely damaged leaves of southern magnolia in nursery at Lake Monroe, Semiole County. (McLeod, Oct. 8).

TULIPTREE SCALE (Toumeyella liriodendri) - SOUTH CAROLINA - Infested poplar in Lancaster; controls effective. (Nettles et al., Oct. 12).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - WISCONSIN - Winged forms noted on Russian-olive. (Wis. Ins. Sur.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - MISSOURI - Delimiting survey October 12-14 based primarily on adult feeding damage indicates pest present in area approximately 23 by 10 miles along Interstate 44 (U.S. 66) between Doolittle, Phelps County, and Waynesville, Pulaski County. Pulaski County is a new county record. (Houser, Gass).

LOCUST BORER (Megacyllene robiniae) - OKLAHOMA - Adults heavy on black locust trees in Mayes County. (Okla. Coop. Sur.).

ELM LEAF BEETLE (Galerucella xanthomelaena) - UTAH - Caused light damage to elms at Tooele and Erda, Tooele County. (Knowlton).

TEA SCALE (Fiorinia theae) - VIRGINIA - Infested camellias in Hampton; det. by S. P. Yang and M. Kosztarab. (Isakson). FLORIDA - All stages localized and severely damaging leaves of camellia in nursery at Sanford, Seminole County. (McLeod, Oct. 5).

BLACK THREAD SCALE (Ischnaspis longirostris) - FLORIDA - Severely damaged leaves of palm (Chamaedorea erumpens) in nursery at Miami, Dade County. (Sloan, Oct. 6).

FLORIDA WAX SCALE (Ceroplastes floridensis) - SOUTH CAROLINA - Infested 2 acres of ornamental plants; hemlock, camellias and hollies involved. Controls used on many plants in Anderson. (Nettles et al., Oct. 12).

HEMISPHERICAL SCALE (Saissetia hemisphaerica) - FLORIDA - All stages caused light to severe damage of birdnest fern in nursery at Apopka, Orange County. (Musgrove, Oct. 5).

COTTONY-CUSHION SCALE (Icerya purchasi) - TEXAS - Locally heavy on pittosporum in Arlington. (Gray).

A MEALYBUG (Geococcus coffeae) - FLORIDA - Recently found on potted citrus seedlings in greenhouse and screenhouse and on boxorange outside of greenhouse at Winter Haven, Polk County. Species first discovered in State at Apopka, Orange County, in 1958. Known in 13 areas of Orange County on 13 genera of plants. Controls underway for next 2 months. (Fla. Coop. Sur.).

APHIDS - WASHINGTON - Prociphilus venafuscus unusually abundant on winter host (green ash) at Pullman, Whitman County. (Johansen). IDAHO - Alates, probably Eriosoma rileyi and Cornaphis spp., heavy on bark of elms at Grangeville. (Cook). Heavy flight of probably Prociphilus venafuscus observed in Moscow area, Latah County, during past 2 weeks (Portman). UTAH - Woolly species extremely numerous on European beech and light on scarlet beech at Logan, Cache County. Periphyllus lyropictus (Norway-maple aphid) moderately numerous at Logan. (Knowlton). Lachnus salignus extremely abundant on weeping willow bark on many trees at Ogden, Weber County, (Fronk, Knowlton). L. salignus noted on some trees in Tooele, Tooele County, and about Salt Lake City, Salt Lake County. (Knowlton). FLORIDA - Cerataphis variabilis adults severely damaged MacArthur cluster palm in nursery at Miami, Dade County. (Denmark, Oct. 7).

A NOCTUID MOTH (Prodenia dolichos) - FLORIDA - Larvae caused light to severe damage to leaves of Philodendron cordatum and Nephthytis sp. in nursery at Apopka, Orange County. (Musgrove, Oct. 5).

IMPORTED CABBAGEWORM (Pieris rapae) - NEVADA - Larvae medium on Russian knapweed in greenhouse in Reno, Washoe County. (Arnett, Lauderdale).

ORANGE-DOG (Papilio cresphontes) - TEXAS - Larvae noted on ornamental citrus in Travis County. (Thompson).

SPIDER MITES - NEVADA - Ranged light to heavy on arborvitae in Lovelock, Pershing County. (Ferraro, Martinelli).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - LOUISIANA - Larval collections by Jefferson Parish Department of Mosquito Control, week ending October 15, yielded Aedes sollicitans (salt-marsh mosquito), Anopheles bradleyi, A. crucians, A. punctipennis, A. quadrimaculatus (common malaria mosquito), Culex erraticus, C. pipiens quinquefasciatus (southern house mosquito), C. restuans, C. salinarius, Psorophora confinnis, Orthopodomyia signifera and Uranitaenia sapphirina. Culex salinarius predominant in light trap collections. Adult population snowed sharp increase in Grand Isle area. (Stokes). TEXAS - Aedes sollicitans predominant species in southern Jefferson County; however, specimens taken to northern county line. A. taeniorhynchus occasionally more numerous than A. sollicitans. Large numbers of

A. vexans in Beaumont area. Psorophora confinnis, Anopheles crucians and and Uranotaenia sapphirina taken in all areas of county. A. quadrimaculatus and Uranotaenia lowii occurred only in southern Beaumont area. (Thompson, Sept. Rpt.). ARKANSAS - Mosquitoes continue numerous in eastern area; residents indicate numbers greater than usual since Hurricane Betsy. (Ark. Ins. Sur.). OKLAHOMA - Heavy adult populations of several species annoying in Bryan County. (Okla. Coop. Sur.). ALABAMA - Heavy and widespread outbreak occurred in Beatrice and Monroeville, Monroe County, following excessive rains from 2 previous hurricanes; municipal officials requested assistance in control efforts. (Lemons).

HORN FLY (Haematobia irritans) - OKLAHOMA - Ranged up to 750 per head on bulls and averaged 30 per head on steers and 50 per head on cows in Payne and Noble Counties. Averaged 250 per head on cows in Craig County; 50 per head on steers in Tulsa County. Heavy in Comanche County; moderate in Bryan and Hughes Counties. (Okla. Coop. Sur.). UTAH - Continues numerous on cattle herd at Erda, Tooele County. (Knowlton).

FACE FLY (Musca autumnalis) - UTAH - Collected at Erda, Tooele County. (Knowlton, Hanson). This is a new county record. (ARS).

BLACK HORSE FLY (Tabanus atratus) - OKLAHOMA - Noted occasionally on cattle; averaged less than 1 per head in Atoka County. (Okla. Coop. Sur.).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Light numbers noted on cows in Hughes County; this is first report of season. (Okla. Coop. Sur.).

WASPS - UTAH - Polistes fuscatus stung boy at Logan, Cache County; very numerous in county about windows of homes and other buildings. Yellow jackets and other wasps troublesome with some children stung; particularly noticable around weeping willows heavily infested with Lachnus salignus in Tooele, Tooele County. (Knowlton). KANSAS - Large numbers of Polistes spp. entering homes in Riley County; more troublesome than in past. (Knutson). MARYLAND - Yellow jackets very annoying on several properties in Laurel area of Prince Georges County. Polistes spp. abundant around several homes in Carrollton, Prince Georges County. (U. Md., Ent. Dept.).

PUSS CATERPILLAR (Megalopyge opercularis) - ARIZONA - Causing concern to homeowners in Huachuca City and Sierra Vista areas of Cochise County. Stings to children and adults common; some defoliation of Chinese elm and mulberry trees observed. (Ariz. Coop. Sur.).

TICKS - OKLAHOMA - Amblyomma americanum (lone star tick) light (1-2 per 10 head) on cattle in Atoka County. Ixodes scapularis (black-legged tick) averaged 9 nymphs per head and Dermacentor albipictus (winter tick) averaged 12 larvae and 5 nymphs per head on same cattle. Rhipicephalus sanguineus (brown dog tick) heavy on dogs and in homes in Payne County. (Okla. Coop. Sur.). MARYLAND - R. sanguineus noted in home at Elkton, October 4. (U. Md., Ent. Dept.).

CATTLE LICE - UTAH - Infested herd of cattle rubbing in Tooele County. (Knowlton). Cattle lice and cattle grub control using newer systemics underway in several beef herds in Millard County; substantial control campaign planned for Kanosh area. (Knowlton, Hall).

BLACK WIDOW SPIDER (Latrodectus mactans) - ARIZONA - Heavy fall hatch causing concern to homeowners in Casa Grande area, Pinal County. (Ariz. Coop. Sur.). MARYLAND - Male specimen found in home at Glen Burnie, Anne Arundel County. (U. Md., Ent. Dept.).

HOUSEHOLD AND STRUCTURAL INSECTS

BOXELDER BUG (Leptocoris trivittatus) - WYOMING - Migrations into homes in Goshen and Laramie Counties causing concern. (Marks). VIRGINIA - Entering homes and causing concern in Clifton Forge. (Isakson). Very few complaints in Frederick County. (Hill). MARYLAND - Numerous about home in Prince Georges County. (U. Md., Ent. Dept.).

LARGE MILKWEED BUG (Oncopeltus fasciatus) - KANSAS - Large numbers noted throughout northeast district; many invading homes. (Simpson).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - UTAH - Food insects, including Dermestes lardarius (larder beetle), flour moths and this species, common in Weber County homes. (Stenquist, Knowlton). VIRGINIA - O. surinamensis and Lasioderma serricorne (cigarette beetle) adults abundant in kitchen, bath and utility room of home in Chesterfield County. (Isakson, Jones).

ELM LEAF BEETLE (Galerucella xanthomelaena) - VIRGINIA - Entering homes to hibernate in Frederick County. (Hill). OKLAHOMA - Continues to enter homes in many areas of State. (Okla. Coop. Sur.).

AN ANOBIID BEETLE (Tricorynus herbarius) - NEBRASKA - Damaged imported books in Lincoln, Lancaster County. (Roselle).

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus) - OHIO - Continues to enter homes and other buildings in Cuyahoga County. (Calderwood, Delaplane).

STORED-PRODUCT INSECTS

LESSER GRAIN BORER (Rhizopertha dominica) - COLORADO - Infested commercial grain sample stored at Colorado State University, Fort Collins, Larimer County. Sample collected in Denver during spring of 1965. (Colo. Ins. Sur.).

INDIAN-MEAL MOTH (Plodia interpunctella) - MISSOURI - Found near sacks of wheat previously fumigated in Pemiscot County. (Downing).

CUCUJID BEETLES - IDAHO - Heavy mixed population of Cryptolestes pusillus (flat grain beetle) and Oryzaephilus surinamensis (saw-toothed grain beetle) noted in farm storage of chopped grain dairy feed at Blackfoot, Bingham County. (Weston).

Stored-product Insects in Oklahoma - Farm-stored wheat checked in Mayes County heavily infested with Tenebroides mauritanicus (cadelle); moderate numbers of Sitophilus oryzae (rice weevil) and Tribolium confusum (confused flour beetle), and light numbers of Plodia interpunctella (Indian-meal moth) and psocids also noted. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

A DAMSEL BUG (Nabis sp.) - WYOMING - Adults averaged 18 per 100 sweeps in alfalfa Goshen and Laramie Counties. (Marks).

A BRACONID (Aphidius smithi) - IDAHO - Reared from mummified pea aphid (Acyrthosiphon pisum) collected in Butte County August 5. (York).

Beneficial Insects in Cotton in California - Lacewings, big-eyed bugs, melyrid beetles (Collops spp.) and anthocorid bugs abundant in some fields in Imperial County. (Campbell, Oct. 10).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - FLORIDA - Adults taken in new township at Sarasota, Sarasota County. (Frederic, Lynch, Oct. 6).

GIANT HORNET (Vespa crabro germana) - INDIANA - Collected for the first time in Brown and Monroe Counties. (Huber).

SALT-MARSH CATERPILLAR (Estigmene acrea) - OKLAHOMA - Large numbers present in many areas of State. Caused some crop damage in western area. Commonly seen crossing highways. (Okla. Coop. Sur.).

MONARCH BUTTERFLY (Danaus plexippus) - MARYLAND - Northwesterly flight observed October 11 along Potomac River shore near Point Lookout, St. Marys County. (U. Md., Ent. Dept.).

A HAIRY FUNGUS BEETLE (Typhaea stercorea) - MARYLAND - Adults emerged from fire-damaged wood beams on property in Baltimore. (U. Md., Ent. Dept., Oct. 4).

CORRECTIONS

CEIR 15(6): 78 Third paragraph, line 9 - ... a FLASE CHINCH BUG (Nysius kingbergi) ... should read a FALSE CHINCH BUG...

CEIR 15(7): 94 - Cotton Insects - Lines 13 and 14 should read "... an aggregate of over 1,000,000 acres will be sprayed for cotton jassid, whiteflies and bollworms."

CEIR 15(16): 333 (Detection) and 370 - Paragraph 4, WESTERN DRYWOOD TERMITE (Incisitermes minor). Change location to Nye County. This is not a new county record. Previously reported from Nye County, Nevada, in CEIR 14(17): 375.

CEIR 15(17): 403 - A CHALICID (Diversinervus elegans) should read A CHALCID.

CEIR 15(21): 524 - Paragraph 6, line 6-"P. boninsis has also been taken on native bunch grass (Enagrostis variabilis)... ." Should read, Pseudococcus boninsis ... (Eragrostis variabilis)... ."

CEIR 15(37): 1060 - Second paragraph, line 4-Prosapis bicincta should read Prosapia bicincta.

CEIR 15(41): 1166 - CENTIPEDES - WISCONSIN - Should read: MILLIPEDS - WISCONSIN.

CEIR 15(42): 1194 - PUNCTURE-VINE WEEVILS (Microlarinus spp.) ... M. larenyii should read M. lareynii.

ADDITIONAL NOTES

NEW MEXICO - ALFALFA CATERPILLAR (Colias eurytheme) adults abundant in most Lea County alfalfa; larvae ranged 0-3 per 25 sweeps in fields checked. (Nielsen). Light to moderate infestations noted in alfalfa in southern Eddy County. THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) adults ranged 3-5 per 25 sweeps in alfalfa checked in southern Eddy County, and adult STINK BUGS ranged 2-3 per 25 sweeps in same area. (Kloepfer, Harrison). Light infestation of a SCUTELLARID BUG found in field of alfalfa near Lovington, Lea County; adults ranged 1-4 per 25 sweeps. PEA APHID (Acyrthosiphon pisum) ranged very light to light in alfalfa checked in Lea County. (Nielsen).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
GEORGIA																								
Tifton 10/7-13	58-82	0.90	BL							2	8							0	0					
FLORIDA																								
Gainesville 10/13			BL	2					2	1							1					2		
MISSISSIPPI																								
Stoneville 10/8-14	51-88	0.03	2BL	20					121	2	140					4	14		1	26	140	25	3	
MISSOURI																								
Portageville 9/18-10/1			BL	11						2	1029				58	1	92			16				
NEBRASKA																								
Bushnell 10/2-8				11		205					5					17				26				
North Platte 9/29-10/6				560		1823					67					95	3			268		29		
Scotts Bluff Expt. Sta. 9/25-10/1				2		55					1		sp. 1			2				3				
OHIO (Counties)																								
Licking 10/7-14			BL	1							13									1				
Franklin 10/9-10			BL	2							5					3				1				
Wayne 10/8			BL																	1				
SOUTH CAROLINA																								
Clemson 9/25-10/1			BL	3					8		38					2	88			21		160		
Clemson 10/2-8			BL	3							8						24			15		38	6	
Clemson 10/9-15			BL								1						2			1		2		
Charleston 10/11-17	58-84	0.2	BL	8			0		10	0	22					0	0	0	0	6		4	4	
TENNESSEE (Counties)																								
Maury 10/5-11				8					8		136						8			56				
Robertson 10/5-11									24		12							1		16				
Cumberland 10/5-11									2		16									7				
Knox 10/5-11				1							28						4			4		4		
Johnson 10/5-11											64						8			16		16		
TEXAS																								
Waco 10/9-15			BL	3			2		55		17			52		10	9			0		6	39	
WISCONSIN																								
Mazomanie 10/7-14			BL	4							3					1				9				
Madison 10/8-14			BL	33							2					43				25				
Middleton 10/8-14			BL	1							3					13				9				
Hancock 10/6-11			BL	2							0					2				5				

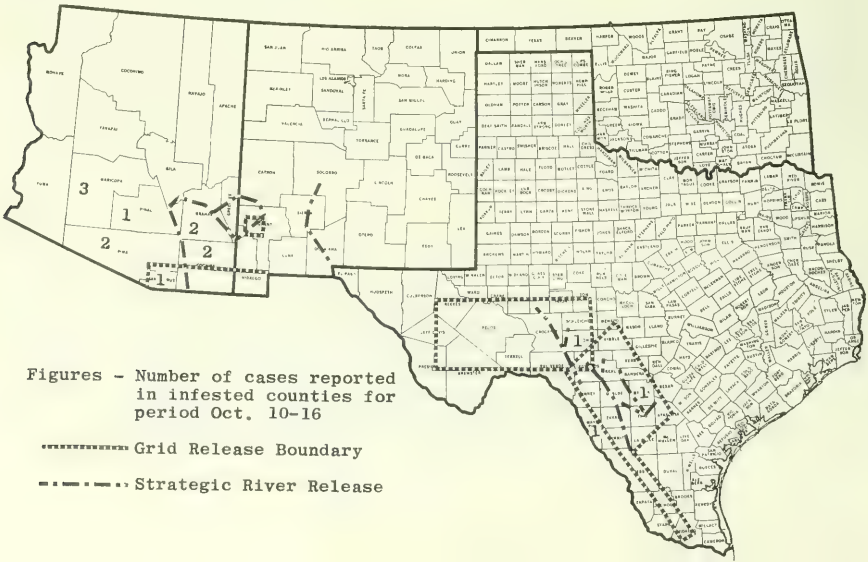
STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period October 10-16, a total of 14 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - one each in Maverick, Sutton and Medina; Arizona - Maricopa 3, Cochise, Graham and Pima 2 each; Santa Cruz and Pinal 1 each. The Republic of Mexico reported 126 cases: Territerio sur de Baja California 25, Coahuila 5, Tamaulipas 3, Sonora 42, Baja California Norte 1, Chihuahua 47, Nuevo Leon 3. Sterile screw-worm flies released: Texas 19,214,250, New Mexico 5,292,000, Arizona 13,572,000, Mexico 64,338,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	411	4895	234	5722	175.64	85.54
1964	11	128	110	4947	10.00	2.58
1965	14	814	52	4077	26.92	19.96
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	249	3165	57	1639	436.84	193.10
1965	138	4469	30	1881	460.00	237.58

Feasibility Survey - During this period, 168 cases were identified in Mexico south of the Barrier Zone, as follows: San Luis Potosi 10, Oaxaca 5, Jalisco 19, Veracruz 25, Mexico 2, Hidalgo 1, Chiapas 2, Nayarit 8, Morelos 2, Durango 74, Guerrero 6, Michoacan 4, Yucatan 8.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.)



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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 October 29, 1965 Number 44

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

EUROPEAN CORN BORER fall populations heavier than in 1963 in Arkansas, but economic only in few fields; populations 2.1 times greater in Delaware than in 1964. Populations of this pest considerably lower in Ohio than last year and down for second consecutive year in Minnesota. This is first year of drastic decrease in second generation of European corn borer in Minnesota and outlook for 1966 is for low populations. (p. 1219).

EUROPEAN CHAFER considered established in Cleveland area of Ohio. (p. 1220).

PINK BOLLWORM moths collected for first time in California; taken in sex-lure traps in Riverside and Imperial Counties, but no established infestations yet found. (See CEIR 15(42): 1189). Additional moths collected in sex-lure traps in Yuma County, Arizona. (p. 1224).

WHITE-FRINGED BEETLES (*Graphognathus* spp.) found at second location in Fulton County, Kentucky; this first find in county since September 1960. (p. 1230).

DETECTION

New State records include: WHEAT CURL MITE (*Aceria tulipae*) in Ohio (p. 1220); SPRUCE NEEDLE MINER (*Taniva albolineana*) in Nevada (p. 1227); SPIREA APHID (*Aphis spiraecola*) in Hawaii (p.1234).

New county records include: SOUTHWESTERN CORN BORER (*Zeadiatraea grandiosella*) in Hardin County, Illinois, (p. 1219); WHEAT CURL MITE in Allen, Defiance, Hancock, Paulding and Wyandot Counties, Ohio, (p.1220); ELM LEAF BEETLE (*Galerucella xanthomelaena*) in 24 counties in Kansas (p. 1227); a MEALYBUG (*Chorizococcus brevicruris*) in Riverside County, California, (p. 1228); a LEGIONARY ANT (*Eciton nigrescens*) in Craig County, Oklahoma, (p. 1231); GIANT HORNET (*Vespa crabro germana*) in Posey County, Indiana, (p. 1231); and 2 APHIDS, *Periphyllus californiensis* in Monterey County and *Lachnus salignus* in Contra Costa County, California, (p. 1228).

CORRECTIONS

See page 1231.

SCIENTIFIC NAME CHANGE

The scientific name for HEMISPHERICAL SCALE, listed in the Common Names of Insects approved by the Entomological Society of America as *Saissetia hemisphaerica* (Targioni-Tozzetti), has been changed to *Saissetia coffeae* (Walker). See Williams, D. J. 1957. Entomologist 90: 314-315.

SPECIAL REPORTS

Distribution of Three Species of Periodical Cicadas (*Magicicada* spp.) in Ohio. (p. 1222).

Status of the Screw-worm in the Southwest. (p. 1233).

Hawaiian Insect Notes. (p. 1234).

Interceptions of Special Interest at U. S. Ports of Entry. (pp. 1235, 1236).

Reports in this issue are for week ending October 22, unless otherwise indicated.

WEATHER OF THE WEEK ENDING OCTOBER 25

HIGHLIGHTS: (1) Indian summer gives way to early winter. (2) Freezes come to the Deep South.

FREEZE: A late-week cold spell moved the freeze line into the Deep South and to within 100 miles of the gulf at some spots. In the Mississippi Valley area this was at least 300 miles south of the previous advance, i.e., from north of the Ohio River to south central Mississippi and Alabama. In the Southeast, the freeze line pushed beyond the southern Appalachians into the Piedmont portions of Georgia and the Carolinas. Compared to average dates, the freezes were up to a week early in the Kentucky area and from 2 to 3 weeks early to the south and southeast.

TEMPERATURE: Weekly average temperatures were below the normal by 3° to 6° from New Mexico to Alabama but mostly 2° to 5° above to the west, north, and northeast of that area. However, these averages fail to show some strong temperature trends within the period. Thus, a retreating high sent a strong, warm-air flow northward to Minneapolis (81°), Minnesota, and northeast to Albany (80°), New York. Then a new high over the northern Rockies brought warming to the West, including a heat wave to the Los Angeles-San Diego area, but sent a frigid, Canadian air mass southeastward across the Plains as far as the gulf and Atlantic coasts. Monday morning temperatures (Oct. 25) dropped to 29° at Meridian, Mississippi, and Macon, Georgia, and down to 24° at Crossville, Tennessee.

PRECIPITATION: Rainfall was substantial but variable from Texas to the Canadian border and over large areas of the East and Northeast. However, the Northeast Drought area had mostly spotty rains. Seasonal rains continued in the Pacific Northwest. Large portions of the Southeast, the northern Plains, and the western intermountain area were relatively dry. Some light snow fell over the middle and southern Appalachians. On Thursday, stormy lake winds brought 6 inches of snow to Kenosha, Wisconsin. On Saturday, strong northwest winds brought mixtures of rain and snow to the upper Great Lakes area. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - DELAWARE - State average of 209 borers per 100 plants is 2.1 times that of last year; 1964 fall population was 98 per 100 plants. This is third consecutive year of increased fall populations. (Burbutis). NORTH CAROLINA - Damaged 50 percent of cornstalks in Iredell County field. (Martin, Mount, Oct. 15). ALABAMA - Badly damaged corn in Fayette County; 2-6 larvae present in most stalks where ears of corn recently destroyed. (McQueen, Pitts). OHIO - Surveys in 33 counties indicate populations considerably lower than in 1964. State average 11.1 borers per 100 plants; averaged 28 per 100 plants in 1964. (Barry, Rose). MINNESOTA - Population counts down for second straight year. State average 22 per 100 plants in 1965 compared with 31 in 1964. Second generation very light; only few fields showed second-generation feeding and only few second and third instars found. Second generation occurred too late in season (late August and September) to be successful. First year of drastic drop in second generation over entire State; outlook for 1966 indicates low population. (Minn. Ins. Rpt.). SOUTH DAKOTA - Populations low to nonexistent in sampled fields in Hanson, Lake, McCook, Miner, Minnehaha and Moody Counties; larvae in third instar. (Jones). KANSAS - Counts slightly below those of 1964. Little stalk breakage below ear encountered and only small portion of breakage above ear. Most larvae in fourth instar. (Simpson). ARKANSAS - Infestations heavier in 1964 and 1965 than in 1963. Economic in few fields only. Very few ears on ground from feeding and boring into shank of ears. (Ark. Ins. Sur.)

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ILLINOIS - Percent damaged plants, by county, as follows: Union 0.18, Johnson 0.33, Pope 0.08, Hardin 0.13, Alexander 9.45, Pulaski 1.29, Massac 0.67. Negative in Randolph, Jackson, Williamson, Saline and Gallatin Counties. Hardin County is new county record. (Ill. Ins. Rpt.). ALABAMA - Corn examined in 9 fields in Fayette County in area where first infestations reported in 1963. Stalks of early corn damaged; percent old stalks girdled; larvae diapausing in tap roots. All late corn heavily infested and damaged. Ranged 50-55 percent of girdled and downed stalks in one field. Much replanting of corn contributed to infestation by later generations. (McQueen, Pitts).

PINK SCAVENGER CATERPILLAR (Sathrobrota rileyi) - ALABAMA - Heavy in ears of corn; lighter in stalks. Causing considerable damage to remaining grain on ears; danger of transporting to storage at harvest noted. (Pitts, Hubbert et al.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - OKLAHOMA - Damage to various crops continues in some areas; especially heavy in Woodward County. (Okla. Coop. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - TEXAS - Reported on forage crops and home lawns over wide area of State; activity mainly in eastern half of State but reported from northeast to Rio Grande Valley. (Texas Coop. Rpt.). NORTH CAROLINA - Severely damaged 12 acres of rye on Orange County farm. (Barnes, Falter). SOUTH CAROLINA - Found in some early rye plantings in Clarendon County. (Nettles et al., Oct. 19).

APHIDS (Rhopalosiphum spp.) - OKLAHOMA - R. padi light in wheat in Payne and Major Counties; first report of season. R. padi formerly reported as R. fitchii (apple grain aphid) but species commonly found on wheat in State is R. padi. R. maidis (corn leaf aphid) light on wheat checked in Payne and Noble Counties. (Okla. Coop. Sur.).

A WHITEFLY (Aleurocybotus occiduus) - ARIZONA - Treatments required on some Bermuda grass seed fields in Yuma County. Remains moderate to heavy. (Ariz. Coop. Sur.).

SPITTLEBUGS - SOUTH CAROLINA - Damaged Coastal Bermuda grass in Abbeville County and Coastal Bermuda grass pastures at several locations in Edgefield County. (Nettles et al., Oct. 19).

LEAFHOPPERS - SOUTH CAROLINA - Unusually abundant and damaging untreated seedling grain in lower Coastal Plain area. None found in treated plots. (Thomas, Oct. 19).

A WEEVIL (Anacentrinus subnudus) - TEXAS - Locally heavy on St. Augustine lawn in Nueces County. Det. by H. Burke. (Garrett).

EUROPEAN CHAFER (Amphimallon majalis) - OHIO - Established in Cleveland area. Surveys subsequent to first detection in July revealed larval populations up to 15 per square foot in lawn in center of infestation. Control area extending from Brantenahl limits east to Euclid Creek and Holmes Avenue to Lake Erie established. (Porter).

FRIT FLY (Oscinella frit) - NEW HAMPSHIRE - Taken in sweepings of roadside stands of reed canary grass at Durham, Strafford County, on August 28. Det. by C. W. Sabrosky. (Sutherland).

WHEAT CURL MITE (Aceria tulipae) - OHIO - Specimens taken from corn at Hoytville, Wood County, September 14. Det. by D. E. Johnson and confirmed by H. H. Keifer. This is a new State record. (Johnston, Creamer). Additional specimens taken from corn in Allen, Defiance, Hancock, Paulding and Wyandot Counties September 22. (Rings, Rose).

GRASSHOPPERS - MONTANA - Adult grasshopper survey completed in early September revealed light to heavy infestations throughout eastern half of State. Damage to crops and rangeland minimal due to above normal moisture throughout June, July and part of August. Snow, rain and cold weather common in all parts of State during September; extended cold period destroyed many grasshoppers. (PPC West. Reg. Sept. Rpt.). SOUTH DAKOTA - Grasshoppers, mostly Melanoplus femurrubrum (red-legged grasshopper) and M. differentialis (differential grasshopper), active at roadsides and borders of alfalfa and corn fields in Lake, Miner, Hanson, McCook and Hutchinson Counties. Generally ranged 10-15 per square yard with at least one field edge in southern Hutchinson County with 15-20 per square yard. Grasshoppers active in alfalfa near Spearfish, Lawrence County; ranged 5-10 per square yard. (Jones). WISCONSIN - M. femurrubrum females continue ovipositing; occasional fifth instar found. (Wis. Ins. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Increasing in alfalfa in Yuma County. Counts per 100 sweeps as follows: Yuma Mesa 100, Yuma Valley 600, Dome Valley 2,100. Moderate in areas of Maricopa County. (Ariz. Coop. Sur.). NEW MEXICO - Light in alfalfa in Estancia area, Torrance County. (Heninger). Building up in alfalfa checked in Roswell area, Chaves County. (Kloepfer). WYOMING - Sexual forms ranged 3-6 per 100 sweeps in alfalfa in Goshen and Platte Counties. (Marks). OKLAHOMA - Averaged 15 per 10 sweeps in alfalfa in Choctaw County and 2 per 10 sweeps in Payne County. (Okla. Coop. Sur.). NEBRASKA - Ranged up to 6 per sweep in Saunders County. (Stevens). Ranged 10-21 per sweep in west and southwest areas; oviparous forms generally present. (Manglitz, Schalk). SOUTH DAKOTA - Averaged 25 per 100 sweeps on 5-8-inch high alfalfa in field near James River in Hutchinson County. (Jones). WISCONSIN - Remains low; rarely exceeding 1 per 10 sweeps in western Dane County. (Wis. Ins. Sur.).

PEA APHID (Acyrthosiphon pisum) - WYOMING - Adults and nymphs averaged 57 per 100 sweeps in alfalfa in Goshen and Platte Counties. (Marks). NEW MEXICO - Light in alfalfa in Estancia area, Torrance County. (Heninger). Building up in many alfalfa fields checked in Roswell area, Chaves County. (Kloepfer). OKLAHOMA - Averaged 60 per 10 sweeps in alfalfa in Choctaw County; light on young alfalfa in Logan County. (Okla. Coop. Sur.). NEBRASKA - Averaged 10 per sweep in alfalfa field in Lancaster County. (Stevens). SOUTH DAKOTA - Averaged 250 nymphs per 100 sweeps in alfalfa in south central Hutchinson County. (Jones). WISCONSIN - Very little population change; some new seeding alfalfa with counts greater than 50 per sweep. Ratio of oviparae to viviparae changed little. (Wis. Ins. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Counts in 2 alfalfa fields checked west of Las Cruces, Dona Ana County, averaged 15-25 adults per 25 sweeps. (Campbell). ARIZONA - Decreasing rapidly in alfalfa throughout State; no controls necessary. (Ariz. Coop. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Nymphs continue common in scattered fields of alfalfa; range up to 5 per sweep in one Dane County field. (Wis. Ins. Sur.).

LYGUS BUGS (Lygus spp.) - WYOMING - Averaged 23 per 100 sweeps in alfalfa in Goshen and Platte Counties. (Marks). UTAH - Decreased conspicuously in alfalfa in Salt Lake and Tooele Counties. (Knowlton). NEW MEXICO - Ranged 2-5 adults per 25 sweeps in Torrance County alfalfa fields. (Heninger).

ALFALFA WEEVIL (Hypera postica) - OHIO - Adult activity increasing near Carpenter, Meigs County; night collections yielded 71 adults per 10 sweeps; 52 percent mated females. Day samples in same area yielded 32 adults per 10 sweeps; 88 percent mated females. (Niemczyk, Flessel).

MEXICAN BEAN BEETLE (Epilachna varivestis) - NORTH CAROLINA - Nearly defoliated several fields of soybeans locally during week of October 4. Yield not affected due to maturity of beans. (Moody).

FRUIT INSECTS

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Overwintering larvae present in shucks of all pecans examined in small orchard in Fayette County. (Pitts et al.). OKLAHOMA - Moderate damage to pecans continues in Mayes County. (Okla. Coop. Sur.).

FALL WEBWORM (Hyphantria cunea) - OKLAHOMA - Damage to pecans continues in northeastern area. (Okla. Coop. Sur.).

FILBERTWORM (Melissopus latiferreanus) - CALIFORNIA - Medium on fruit of chestnut in Walnut Creek, Contra Costa County. (Cal. Coop. Rpt., Oct. 15).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Heavy in black walnuts in Yuba City, Sutter County. (Cal. Coop. Rpt., Oct. 15). Larvae heavy in walnut husks in San Martin, Santa Clara County. (Cal. Coop. Rpt.). UTAH - Light in black walnuts near Brigham City, Box Elder County. (Knowlton).

APHIDS - ALABAMA - Continue heavy on unsprayed pecans in Baldwin County, October 8. Light to medium in Fayette County. (Turner, Pitts et al.).

AN AMBROSIA BEETLE (Xylosandrus compactus) - FLORIDA - Larvae scattered on fruit of Queensland-nut at Homestead, Dade County. (Meyer, Oct. 11).

CITRUS RED MITE (Panonychus citri) - CALIFORNIA - Eggs and adults heavy on citrus in Soledad, Monterey County. (Cal. Coop. Rpt., Oct. 15).

BLACK SCALE (Saissetia oleae) - CALIFORNIA - This species and Coccus hesperidum (brown soft scale) medium on citrus in Kings City, Monterey County. (Cal. Coop. Rpt.)

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - One wild male taken in trap at San Ysidro, San Diego County, for first collection in State since July 1, 1963. So far this year 26 sterile males trapped in State. (Cal. Coop. Rpt.).

TEXAS LEAF-CUTTING ANT (Atta texana) - TEXAS - Local widespread infestations stripping leaves and causing some extensive damage in citrus groves in Hidalgo County. (Texas Coop. Rpt., Page).

DISTRIBUTION OF THREE SPECIES OF PERIODICAL CICADAS (Magicicada spp.) IN OHIO

A number of collections of adults of the 17-year species of periodical cicadas (Magicicada spp.) were made in Ohio during the 1965 season. The shaded areas in three of the accompanying maps designate the counties in which three species were found. The maps, however, do not show specific locations within county boundaries in which these species occurred. These records summarize only the present known distribution of Magicicada septendecim (L.), M. cassini Fisher and M. septendecula Alexander and Moore. The fourth map represents the approximate areas in the State where these species caused heavy and widespread "flagging" injury during the 1965 season. (H. Y. Forsythe, Jr.).

Magicicada septendecula

Magicicada septemdecim

Magicicada cassini

"Flagging" injury

A WEEVIL (Artipus floridanus) - FLORIDA - Scattered and moderately damaging sweet orange in nursery at Titusville, Brevard County. (Levan, Oct. 11).

Citrus Insect Situation in Florida - Mid-September - CITRUS RUST MITE (Phyllocoptruta oleivora) infested leaves in 71 percent of groves (norm 64 percent); 45 percent economic (norm 37 percent); and infested fruit in 73 percent of groves (norm 71 percent); 52 percent economic (norm 47 percent). Population will continue increase and will be above average and in high range. All districts high. CITRUS RED MITE (Panonychus citri) infested 20 percent of groves (norm 42 percent); 4 percent economic (norm 19 percent); and TEXAS CITRUS MITE (Eutetranychus banksi) infested 20 percent of groves (norm 27 percent); 5 percent economic (norm 9 percent). Populations below average for October. Both species of mites will increase gradually but not expected to exceed normal. Scattered groves will develop important infestations. All districts in low range; west is highest for both species. GLOVER SCALE (Lepidosaphes gloverii) infested 64 percent of groves; 5 percent economic. Population slightly above normal, little change expected. Highest district is south. Few infestations will be important. PURPLE SCALE (Lepidosaphes beckii) infested 59 percent of groves; 2 percent economic. Population is below normal. Very few infestations will be important. YELLOW SCALE (Aonidiella citrina) infested 53 percent of groves; 7 percent economic. Above normal and will increase. A few moderate to heavy infestations expected in most districts. Highest district is central. CHAFF SCALE (Parlatoria pergandii) infested 45 percent of groves; 2 percent economic. Population below average; will increase but will be important only in scattered groves. Highest districts south and east. WHITEFLIES are at normal level. Fungi have become abundant on larvae within past 2 weeks. Population expected to decrease. (W. A. Simanton (Citrus Expt. Sta., Lake Alfred)).

SAN JOSE SCALE (Aspidiotus perniciosus) - FLORIDA - General and severely damaging stem of Queensland-nut (Macadamia ternifolia) in nursery at Miami, Dade County. (Meyer). This is new host record for Florida Division of Plant Industry. (Fla. Coop. Sur.). CALIFORNIA - Locally heavy on apple fruit and twigs in Grenada, Siskiyou County. (Cal. Coop. Rpt.)

MEALYBUGS - FLORIDA - Geococcus coffeae damaging banana roots at Winter Haven, Polk County (Dekle); nymphs damaging olive at same location (Burnett). CALIFORNIA - Pseudococcus obscurus medium on citrus in Escondido, San Diego County. (Cal. Coop. Rpt.).

SPIREA APHID (Aphis spiraecola) - FLORIDA - Adults localized and severely damaging leaves of avocado at Fort Pierce, St. Lucie County. (Campbell).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - CALIFORNIA - Larvae medium in peach fruit in Visalia, Tulare County. (Cal. Coop. Rpt., Oct. 15).

LESSER PEACH TREE BORER (Synathedon pictipes) - ALABAMA - This species and Sanninoidea exitiosa (peach tree borer) heavily damaging several older plum trees in small home orchard in Fayette County. (Pitts et al.).

NOCTUID MOTHS - OHIO - Spaelotis clandestina moths deposited eggs October 15. Eggs of Amathes badinodis, Abagrotis alternata and Rhynchagrotis cupida deposited October 7, hatched October 21. Eupsilia morrisoni, E. sidus and E. vinulenta moths reached peak emergence October 17-20. Amphipyra pyramidoides moths still depositing eggs October 21. (Rings).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Increase continues on lettuce in Yuma and Maricopa Counties. Some controls necessary. (Ariz. Coop. Sur.).

TOMATO FRUITWORM (Heliothis zea) - NEW MEXICO - Controls for this species and Trichoplusia ni (cabbage looper) continue in lettuce fields in Hatch Valley and Mesilla Valley, Dona Ana County. (N. M. Coop. Rpt.).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Slight increase observed in lettuce in Maricopa, Pinal and Yuma Counties. (Ariz. Coop. Sur.). CALIFORNIA - Larvae of this species and Trichoplusia ni (cabbage looper) medium on strawberry plants in Chula Vista, San Diego County. (Cal. Coop. Rpt., Oct. 15).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW MEXICO - Larvae light in commercial cabbage field near Estancia, Torrance County. Previous heavy infestation caused extensive damage. (Heninger).

BEAN LEAF SKELETONIZER (Autoplusia egena) - CALIFORNIA - Larvae heavy on string beans in Fremont, Alameda County. (Cal. Coop. Rpt.).

POTATO TUBERWORM (Gnorimoschema operculellum) - CALIFORNIA - Pupae medium in potato tubers in San Ardo, Monterey County. (Cal. Coop. Rpt., Oct. 15). VIRGINIA - Larvae infesting large percentage of stored potatoes at 2 locations in Spotsylvania County. (Isakson, Birdsall, Oct. 14).

A SAP BEETLE (Conotelus mexicanus) - NEW MEXICO - Moving from cotton into lettuce in Dona Ana County; causing some concern. (N. M. Coop. Rpt.).

SOUTHERN GREEN STINK BUG (Nezara viridula) - FLORIDA - Adults, probably this species, severely damaging okra at Citra, Marion County. (Stevens). One 5-acre commercial field yielded 1 bushel of salable pods. (Fla. Coop. Sur.).

HARLEQUIN BUG (Murgantia histrionica) - FLORIDA - Adults localized and lightly damaging leaves of collards at Howey-in-the-Hills, Lake County. (Bentley).

CABBAGE APHID (Brevicoryne brassicae) - NEW MEXICO - Heavy in cabbage fields in Torrance County. (Heninger).

MELON APHID (Aphis gossypii) - ARIZONA - Light to moderate on lettuce and cantaloups in Yuma County; some controls required. (Ariz. Coop. Sur.).

TOMATO RUSSET MITE (Aculus lycopersici) - CALIFORNIA - Heavy on nightshade plants in Elder Gulch-Highlands area, San Bernardino County. (Cal. Coop. Rpt., Oct. 15).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Single male specimens taken in sex-lure traps at Blythe, Riverside County, and at Bard, Imperial County. Specimen at Blythe taken October 4, 1965, by H. Blakemore. Specimen at Bard collected October 8. Determinations made by W. Bauer, California Department of Agriculture. Status of collections under investigation as no established infestation has been located. Light traps in same areas have been negative. These could be windborn moths as result of recent tropical storms. This is first record of adult moths being trapped in State. (Cal. Coop. Rpt., Oct. 15). Adult males continue to be attracted to traps in Bard, Imperial County, and Blythe, Riverside County. Total of 13 males taken to date; 11 attracted to sex-lure traps and 2 in light traps. Intensive visual and auxillary inspections negative for larval infestations. Absence of females continues. (Cal. Coop. Rpt.). ARIZONA - Sex-lure traps yielded 102 males in Yuma County; moths collected at Wellton, Dome Valley, north Gila Valley, south Gila Valley and Cibola. Two larvae collected from gin trash on farm near Dateland. (Ariz. Coop. Sur.).

BOLLWORM (Heliothis zea) - ARIZONA - Few populations persist on top crop bolls in areas of Yuma, Maricopa and Pinal Counties. (Ariz. Coop. Sur.). NEW MEXICO - Infestations very light to light and spotted, with damage to cotton minor in Luna, Hidalgo and Eddy Counties. (Hare, Kloepfer).

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Considerable shredding of cotton stalks in Morgan, Fayette and Lowndes Counties reducing high populations. (Rutledge, Pitts et al.).

A WEEVIL (Anthonomus sp.) - ARIZONA - Larva found west of stub cotton zone in Yuma County; this is first specimen found west of stub cotton line this fall. (Ariz. Coop. Sur.).

COTTON APHID (Aphis gossypii) - ARIZONA - Light to moderate and staining lint in some areas of Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Very light to light in cotton in Luna County and in Virden Valley of Hidalgo County. (Hare).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

CONIFER BARK BEETLES (Dendroctonus spp.)- CALIFORNIA - D. valens (red turpentine beetle) severely damaging knobcone pines in Whiskeytown campground, Shasta County. (J. Pierce, Oct. 15). D. ponderosae (mountain pine beetle) killing sugar pine trees in Clear Creek drainage on Klamath National Forest, Siskiyou County; over 1,000 trees killed throughout drainage area; trees continue to fade in groups up to 12 (J. Alden, USFS). D. ponderosae (=D. jeffreyi) causing severe local damage to Jeffery pines in Willow Creek and Rock Creek on Lassen National Forest. Plumas County. About 130 trees faded in square-mile area. (C. Summerfield, J. Mitchell, USFS). D. brevicomis (western pine beetle) and Ips sp. killing pine trees in west fork of middle creek area of Mendocino National Forest. Over 60 trees killed in 2-acre area. (Kessler, USFS). D. brevicomis caused severe loss of ponderosa pines on Klamath National Forest from Cecilville on Salmon River, Callahan on Scott River and along upper Klamath River. Most damage associated with flood damage that occurred last spring. Considerable recreational area involved. Controls underway. (J. D. Warnock, N. E. Dircksen, USFS). TEXAS - Number of active infestations of D. frontalis (southern pine beetle) continues decline since June; 88 spots found on detection flights; slightly less than one-half number found in August. Detected in Hardin, Jasper, Liberty, Newton, Orange, Polk, San Jacinto and Tyler Counties. Evaluation survey to detemine population density and trends. Hazardous populations exist in epidemic area. Adult activity concentrated in east central Tyler and adjacent Jasper County. Infestation increased in past 2 weeks. Concentration in areas where some spots remained uncontrolled most of summer producing large source of adults. D. terebrans (black turpentine beetle) attacking loblolly pine on about 3 acres in Panola County; trees weakened by escaping natural gas. Estimated 15 trees attacked; no controls reported. (Texas For. Pest Comm., Sept. Rpt.) NORTH CAROLINA - D. frontalis continues quite severe in upper Piedmont; especially severe in Forsyth, Yadkin and Davie Counties. Quite prevalent in northern Granville County; less in northern Vance County. Situation considerably improved in Hertford, Gates and Perquimans Counties. Continues serious in Dare and Hyde Counties and in similar inaccessible areas of Beaufort County. Some scattered, spot infestations appearing in Tyrrell County. (For. Pest Newsltr., Oct. 10).

ENGRAVER BEETLES (Ips spp.) - CALIFORNIA - I. calligraphus infested ponderosa pine trees in Placerville, El Dorado County; approximately 22 trees infested in 2-acre plot. (Dupree, Hill, USFS, Oct. 15). TEXAS - No unusual damage by I. avulsus, I. calligraphus and I. grandicollis reported. (Texas For. Pest Comm., Sept. Rpt.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - TEXAS - Outbreak in Trinity County on National forest land; activity increased in July. No controls applied. (Texas For. Pest Comm., Sept. Rpt.). NORTH CAROLINA - Larvae feeding on longleaf pines locally in Bladen County; defoliating Scotch pine in Buncombe County. (For. Pest Newsltr. Oct. 10). VIRGINIA - Completely defoliated young pine tree in Bedford County. (Isakson, Oct. 14).

A PLATYPODID BEETLE (Platypus sp.) - NORTH CAROLINA - Adults attacking pines in Lenoir County location. Det. by M. H. Farrier. (Koonce, Oct. 15).

GYPSY MOTH (Porthetria dispar) - Seasonal trapping completed in Northeastern States. During season, 81 moths recovered from 59 traps in NEW JERSEY and 21 moths recovered from 18 traps in PENNSYLVANIA. One moth trapped in Bombay Township, Franklin County, NEW YORK, 2 egg masses found in Clayton Township, Jefferson County, located within several hundred feet of area treated in spring. Three egg masses removed from lumber in Ulster County, New York, destined for out of State and out of Country. Shipments of Ooencyrtus kuwanai (an encyrtid wasp) to new and fringe areas of P. dispar infestations started in late August. Shipments will continue until mid-October. (PPC East. Reg., Sept. Rpt.).

BROWN-TAIL MOTH (Nygmia phaeorrhoea) - MASSACHUSETTS - Larvae forming winter webs on Cape Cod. (PPC East. Reg., Sept. Rpt.).

FALL WEBWORM (Hyphantria cunea) - CALIFORNIA - Causing severe damage to madrone trees along Klamath River from Seiad Valley to Happy Camp, Siskiyou County. This is fourth year of infestation; some indication that infestation lessening. (N. E. Dircksen, USFS, Oct. 15). NEW MEXICO - Defoliating shade trees in Roswell, Chaves County. (N. M. Coop. Rpt.). FLORIDA - Larvae localized and severely damaging leaves of bald cypress at Gainesville, Alachua County. (Mead).

FALL CANKERWORM (Alsophila pometaria) - WISCONSIN - Females crawling up elm trunks on warm mornings following rains. (Wis. Ins. Sur.). NORTH DAKOTA - Adults at peak emergence. (Frye).

VARIABLE OAK LEAF CATERPILLAR (Heterocampa manteo) - OKLAHOMA - Moderate to heavy on oaks checked in Pushmataha County. (Okla. Coop. Sur.).

RED-HUMPED CATERPILLAR (Schizura concinna) - CALIFORNIA - Larvae heavy on liquid-amber trees in Jackson, Amador County. (Cal. Coop. Rpt., Oct. 15).

A LIMACODID MOTH (Prolimacodes badia) - VIRGINIA - Larvae feeding on sycamore in Buchanan County. (Isakson, Abbott).

LINDEN LOOPER (Erannis tiliaria) - NORTH DAKOTA - Female taken from elm at Hunter. (Stein).

ELM LEAF BEETLE (Galerucella xanthomelaena) - KANSAS - New county records for 1965 by district as follows: Northwest - Cheyenne, Thomas, Sheridan; west central - Logan; southwest - Kearny, Grant, Stevens, Haskell, Meade; north central - Smith, Jewell, Mitchell, Republic, Cloud, Washington, Clay; central - Marion, Lincoln; northeast - Nemaha; east central - Lyon, Osage, Johnson, Shawnee; and southeast - Wilson. (Simpson).

SPRUCE NEEDLE MINER (Taniva albolineana) - NEVADA - Larvae light on 3 Colorado spruce trees in Reno, Washoe County. Trees moved to Reno from Bowers Mansion, Washoe County, in early October; typical damage observed by movers at that time. Surveys to determine extent of infestation underway. This is a new State record. Det. by R. C. Bechtel and confirmed by G. T. Okumura. (Bechtel).

ORIENTAL FRUIT MOTH (Grapholitha molesta) - CALIFORNIA - Larvae medium on stems and twigs of photinia nursery stock in Fresno, Fresno County. (Cal. Coop. Rpt.).

AZALEA CATERPILLAR (Datana major) - VIRGINIA - All instars attacking shrubs in Holland, Nansemond County. (Smith). Light to medium on azaleas in Mathews County. (Isakson, Dinwiddie).

ARMORED SCALES (Abgrallaspis spp.*) - CALIFORNIA - A. cyanophylli heavy on cactus nursery stock in Fresno, Fresno County. (Cal. Coop. Rpt.). VIRGINIA - A. townsendi found on Japanese holly in Wilsons, Nottoway County. Det. by S. P. Yang and M. Kosztarab. (Isakson, Cassell, August 25).

ARMORED SCALES - OKLAHOMA - Unaspis euonymi (euonymus scale) caused considerable damage to euonymus in Oklahoma, Pottawatomie, Tulsa and Payne Counties. Aspidiotus perniciosus (San Jose scale) damaged pyracantha and trifoliate orange in Stillwater area, Payne County. (Okla. Coop. Sur.). FLORIDA - Chrysomphalus aonidum (Florida red scale) localized and severely damaging leaves of camellia at Fort Lonesome, Hillsborough County. (Custead, Oct. 15).

HEMISPHERICAL SCALE (Saissetia coffeae**)- FLORIDA - Severely damaged stems and leaves of leather fern at Miami, Dade County. (Sloan, Oct. 14). CALIFORNIA - Medium on Choisya ternata in Salinas, Monterey County. (Cal. Coop. Rpt., Oct. 15).

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* Davidson, J. A. 1964. Ent. Soc. Amer. Ann. 57(5):638-643.
** Williams, D. J. 1957. Entomologist 90: 314-315.

A MEALYBUG - (Chorizococcus brevicruris) - CALIFORNIA - Heavy on Stapelia hirsuta and S. verrucosa nursery stock in Norco, Riverside County. This is a new county record. (Cal. Coop. Rpt.).

APHIDS - CALIFORNIA - Periphyllus californiensis heavy on maple tree in Salinas, Monterey County. This is a new county record. Lachnus salignus heavy on willow tree nursery stock in Walnut Creek, Contra Costa County; this is a new county record. Heavy on pussy willow nursery stock in La Mesa, San Diego County. (Cal. Coop. Rpt.). UTAH - Myzocallis elegans very numerous on some elm trees at Logan, Cache County; one heavily infested tree sprayed 3 times. (Knowlton). NEW MEXICO - An aphid, probably Amphorophora nervata, light to heavy on roses in home gardens at Albuquerque, Bernalillo County. (Heninger). MARYLAND - Macrosiphum rosae (rose aphid) apterous and alate forms common on rose buds at College Park, Prince Georges County. (U. Md., Ent. Dept.).

HOLLYHOCK WEEVIL (Apion longirostre) - CALIFORNIA - Adults heavy on hollyhock flowers in Roseville, Placer County, and on peach fruit in Chico, Butte County, week ending October 8. (Cal. Coop. Rpt.). Delete note in CEIR 15(42): 1192. A. longirostre has not been found in Glenn County. (PPC). UTAH - Now scarce wherever examined in northern part of State. (Knowlton).

FULLER ROSE BEETLE (Pantomorus godmani) - CALIFORNIA - Adults heavy and damaging chrysanthemums in Marysville, Yuba County. (Cal. Coop. Rpt., Oct. 15).

A LEAF BEETLE (Eurypepla jamaicensis) - FLORIDA - Adults moderately damaging to leaves of Cordia sebestena at Coral Gables, Dade County. (Sloan, Oct. 14).

GRASSHOPPERS - NEW MEXICO - Defoliating euonymus and other shrubs at shopping center in eastern Albuquerque, Bernalillo County. (Heninger).

BRISTLY ROSE-SLUG (Cladius isomerus) - CALIFORNIA - Larvae locally heavy on rose bushes in Capitola, Santa Cruz County. (Cal. Coop. Rpt.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Heavy on castor-beans and nightshades in Highlands, San Diego County. (Cal. Coop. Rpt., Oct. 15).

A FALSE SPIDER MITE (Brevipalpus essigi) - CALIFORNIA - Medium on Hebe buxifolia nursery stock in Half Moon Bay, San Mateo County. (Cal. Coop. Rpt., Oct.15).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - WISCONSIN - Unusually prevalent on warm days and evenings in many areas. Considerable biting occurring. (Wis. Ins. Sur.). OKLAHOMA - Adults heavy in Bryan County and moderate along rivers and creek bottoms in Washington County. (Okla. Coop. Sur.). LOUISIANA - Jefferson Parish Department of Mosquito Control larval collections for week ending October 21 included Aedes sollicitans (salt-marsh mosquito), A. vexans, Anopheles crucians, A. punctipennis, A. quadrimaculatus (common malaria mosquito), Culex pipiens quinquefasciatus (southern house mosquito), C. restuans, C. salinarius, Orthopodomyia signifera, Psorophora ciliata, P. confinnis and Uranotaenia sapphirina. Total of 14,900 adults taken in 23 light traps during period; slight decrease from previous week. C. salinarius predominant in light trap collections. (Stokes). ALABAMA - Mosquitoes general and heavy around homes and lakes in Tallapoosa, Randolph, Coosa, Montgomery and Chambers Counties. (Barwood, Denton et al.).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Moderate on cattle in Bryan County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Averaged 800 per head on cows in Pushmataha and McCurtain Counties. Moderate to heavy in Bryan and Noble Counties. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Heavy, 10 per head, on cows in Pushmataha and McCurtain Counties. (Okla. Coop. Sur.).

HOUSE FLY (Musca domestica) - OKLAHOMA - Heavy around cattle, barns and houses in most areas. (Okla. Coop. Sur.).

FACE FLY (Musca autumnalis) - UTAH - Continues annoying to cattle and horses in Cache, Box Elder, Weber and Davis Counties. (Knowlton).

SHEEP BOT FLY (Oestrus ovis) - WYOMING - Larvae ranged 2-50 (averaged 25.7) per head in 7 sheep heads examined. (Pfadt).

HORSE BOT FLY (Gasterophilus intestinalis) - KANSAS - Adults and eggs heavy in Pottawatomie County. (Marvin). OKLAHOMA - Adults heavy around horses checked in Noble County. (Okla. Coop. Sur.).

TICKS - MASSACHUSETTS - Rhipicephalus sanguineus (brown dog tick) caused concern in New London, Merrimack County. (Sutherland, Oct. 15). VIRGINIA - Engorged nymphs of R. sanguineus crawling on kitchen wall in home in Newport News. (Isakson, Kelly). OKLAHOMA - Dermacentor albipictus (winter tick) and Ixodes scapularis (black-legged tick) light to moderate on cattle in southeast area. (Okla. Coop. Sur.).

BLACK WIDOW SPIDER (Latrodectus mactans) - UTAH - Found about homes in Salt Lake City, Salt Lake County, and Ogden, Weber County; causing concern. (Knowlton).

HOUSEHOLD AND STRUCTURAL INSECTS

BOXELDER BUG (Leptocoris trivittatus) - NEW HAMPSHIRE - Adults and nymphs common on boxelder and entering homes in Manchester, Hillsboro County, and in Claremont, Sullivan County. (Conklin, Sutherland, Oct. 14). MARYLAND - Observed around outside of buildings in Frederick and Prince Georges Counties. (U. Md., Ent. Dept.). NORTH CAROLINA - Fairly large numbers noted in yard and home in Rutherford County. (Crawford, Robertson, Oct. 15). UTAH - Troublesome in homes at Farmington, Davis County, and at Granite, Salt Lake County. Entering additional Cache Valley homes and schoolrooms. (Knowlton).

ELM LEAF BEETLE (Galerucella xanthomelaena) - VIRGINIA - Causing concern at Farmville, Prince Edward County. (Isakson).

CIGARETTE BEETLE (Lasioderma serricorne) - NORTH CAROLINA - Problem in Henderson County home. (Shaw, Mount, Oct. 15). Severe in dried chrysanthemum flowers in home in Wake County. (Mount). MARYLAND - Large numbers infested spices in 2 homes in Prince Georges County. (U. Md., Ent. Dept.).

RED FLOUR BEETLE (Tribolium castaneum)- NEW HAMPSHIRE - Found in home at Derry, Rockingham County. (Sutherland, Oct. 14). MARYLAND - Infested flour in home at Ellicott City, Howard County. (U. Md., Ent. Dept., Oct. 13).

A POWDER-POST BEETLE (Lyctus brunneus) - MARYLAND - Infested bamboo curtain at Laurel, Prince Georges County. (U. Md., Ent. Dept.).

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - VIRGINIA - Found throughout house at Sterling, Loudoun County. (Isakson, Brown, Oct. 15).

A PYRALID MOTH (Aglossa caprealis) - NORTH CAROLINA - Larvae observed feeding on sweetpotatoes in Yadkin County home. (Smith, Mount, Oct. 15).

MILLIPEDS - UTAH - Very numerous about and entering homes at Salt Lake City, Salt Lake County. (Knowlton). MICHIGAN - Annoying numbers of adults entering basement of home in Livingston County. (Newman).

CLOVER MITE (Bryobia praetiosa) - UTAH - Entered several homes in Salt Lake area, Salt Lake County. (Knowlton).

SUBTERRANEAN TERMITES - UTAH - Damaging additional home at Logan, Cache County. (Knowlton).

STORED-PRODUCT INSECTS

PSOCIDS - NORTH CAROLINA - Problem in large warehouse in Burke County. (Parton, Scott, Oct. 15).

VINEGAR FLIES (Drosophila spp.) - SOUTH CAROLINA - Abundant in newly harvested sweetpotatoes in packinghouse in Chesterfield County. (Willis, Nettles, Oct. 19).

BENEFICIAL INSECTS

LADY BEETLES - NEW MEXICO - These mostly light in cotton fields in Luna and Hidalgo Counties. (Hare). SOUTH DAKOTA - Adults averaged 15 per 100 sweeps in alfalfa in south central Hutchinson County. (Jones).

LYGAEID BUGS - SOUTH DAKOTA - Averaged 150 adults per 100 sweeps in alfalfa in south central Hutchinson County. (Jones).

MISCELLANEOUS INSECTS

WHITE-FRINGED BEETLES (Graphognathus spp.) - KENTUCKY - Found at second location in Fulton County, approximately 6 miles from earlier find. Cemetery near original infestation in Hickman found heavily infested following week. Beetles quite numerous in cemetery and at original infestation; easily found feeding on host plants. Infested area estimated to be 465 acres. This first find in Fulton County since September 1960. (PPC Cent. Reg., Sept. Rpt.).

JAPANESE BEETLE (Popillia japonica) VIRGINIA - Delimiting survey in Norfolk area revealed 3 new infestations; one near known infestation; other 2 removed from previously known infestations. Infestation in Churchland section of Chesapeake over 5 miles from previous finds. (PPC East. Reg., Sept. Rpt.).

A SCARAB (Aphodius prodromus) - WISCONSIN - Large flight noted in area near Barron, Barron County; found in agricultural areas and dissipated into wooded region. (Wis. Ins. Sur.).

DERMESTID BEETLES (Trogoderma spp.) - NEVADA - Following species collected from nest of Megachile rotundata (a leafcutting bee): T. glabrum at Las Vegas, Clark County, and Orovada, Humboldt County. T. parabile at Lovelock, Pershing County, and T. simplex at Mustang, Washoe County. T. glabrum and T. parabile det. by G. T. Okumura. (Bechtel).

A SOLDIER FLY (Hermetia illucens) - NORTH CAROLINA - Larvae noted in trench silo in Iredell County. (Franklin, Robertson).

A MARCH FLY (Bibio sp.) - NORTH CAROLINA - Extremely large number swarming around Mecklenburg County yard. (Hobson).

A GIANT WATER BUG (Lethocerus americanus) - WISCONSIN - Flights noted nights of October 15 and 16 in Middleton area; populations low. (Wis. Ins. Sur.).

A CLEARWING MOTH (Aegeria tibialis) - UTAH - Reared from larvae and pupae from rotting stump at Provo July 21. Det. by W. D. Duckworth. (Knowlton, Hassell).

A LEGIONARY ANT (Eciton nigrescens) - OKLAHOMA - Taken in Centralia area of Craig County October 13; this is a new county record. (Okla. Coop. Sur.).

GIANT HORNET (Vespa crabro germana) - INDIANA - Specimens taken in blacklight trap at Hovey Lake, Posey County; this is a new county record. (Chandler, White). Stripping bark from lilac in Clark County. (Chandler, Lehker).

CORRECTIONS

CEIR 15(42): 1192 - HOLLYHOCK WEEVIL (Apion longirostre) - CALIFORNIA - Note should read "Adults heavy on hollyhock flowers in Roseville, Placer County, and taken on peach fruit in Chico, Butte County. (Cal. Coop. Rpt.)."

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	BL = blacklight M = mercury vapor O = other	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (gray cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																									
Gainesville 10/18			BL	2					6		1						3			9		4			
GEORGIA																									
Tifton 10/14-20	55-85	0.82	BL							1	118							0	0						
KANSAS																									
Garden City 10/6,8,11, 13,14,18						64																			
Hays 10/7,9,14						7																			
MISSISSIPPI																									
Stoneville 10/15-21	50-86	Trace	2BL	55					537	5	439					13	57			94	344	165	9		
NEBRASKA																									
Bushnell 10/9-15				21		107					3					32				30					
Chappell 10/5-11				39		227					22					1				22		2			
Chappell 10/12-18				49		144					36					5				36					
North Platte 10/7-13				295		546					2					59	9			134		7			
Ogallala 9/20-24				3		26					1									3					
Ogallala 9/30-10/7				4		70					16					5	2			5		3			
SOUTH CAROLINA																									
Charleston 10/17-23	47-72	6.26	BL	9			0		19	0	63					0	1	0	0	29		19	0		
TENNESSEE (Counties)																									
Madison 10/12-18									8		120						8			8					
Maury 10/12-18				8					8		16									24					
Robertson 10/12-18									8		40									8					
Cumberland 10/12-18											48														
Greene 10/12-18											28														
Knox 10/12-18				8					8		16									8		8			
Johnson 10/12-18				8							20					8	4			16		24			
TEXAS																									
Waco 10/16-22			BL	0			4		53	40	80					27	6			15	39	9	43		
WISCONSIN																									
Mazomanie 10/15-21			BL	1							20					6				10					
Madison 10/15-21			BL	52							19					68				51					
Middleton 10/15-21			BL	6							17					18				7					
WYOMING																									
Laramie 9/15-26						2														6					
Laramie 9/27-10/4				6		6										3				12					
Laramie 10/5-12				4		1														5					

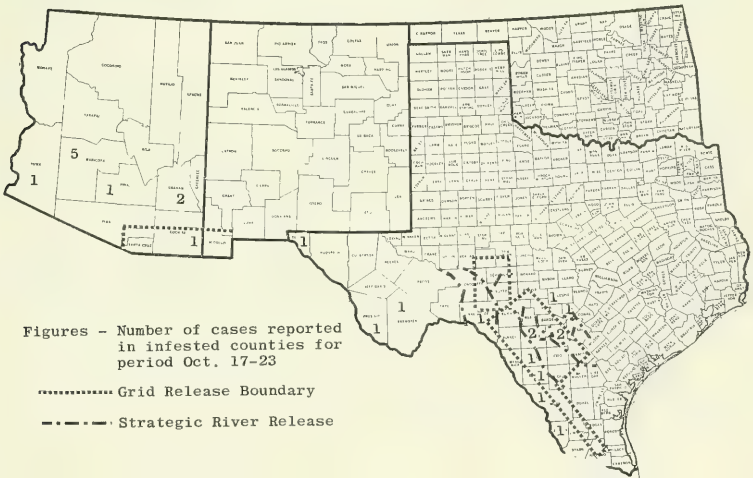
STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period October 17-23 a total of 24 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Medina and Uvalde 2 each, Brewster, Presidio, Webb, Val Verde, Zapata, Kendall, El Paso, Dimmit, Zavala and Gillespie 1 each; ARIZONA - Maricopa 5, Graham 2, Yuma, Cochise and Pinal 1 each. The Republic of Mexico reported 72 cases: Tamaulipas 4, Sonora 27, Coahuila 16, Chihuahua 23 and Territorio sur de Baja California 2. Sterile screw-worm flies released: Texas 18,826,250, New Mexico 3,916,000, Arizona 16,665,000, California 224,000, Mexico 69,520,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	261	5156	256	5978	101.95	86.24
1964	23	151	148	5095	15.54	2.96
1965	24	838	85	4162	28.23	20.13
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	121	3286	26	1665	465.38	197.35
1965	92	4561	34	1915	270.58	238.17

Feasibility Survey - During this period 259 cases were identified in Mexico south of the Barrier Zone, as follows: San Luis Potosi 26, Michoacan 6, Chiapas 12, Oaxaca 4, Veracruz 71, Jalisco 29, Durango 53, Queretaro 1, Tabasco 1, Colima 2, Morelos 8, Nayarit 9, Puebla 7, Guerrero 8, Mexico 1, Yucatan 1, Hidalgo 9, Sinaloa 10, Guanajuato 1.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



HAWAIIAN INSECT NOTES

The following notes on Hawaii insect conditions were presented at the meeting of the Hawaiian Entomological Society held in October 1965.

SPIREA APHID (Aphis spiraecola Patch) was collected in Haleakala Crater, Maui, at 7,000 feet elevation on Osteomeles anthyllidifolia (a native rosaceous plant) during July 1965 by Dr. J. W. Beardsley. Det. by L. M. Russell. This is a new State record. (Beardsley).

AN ENCYRTID WASP (Aphycus stanleyi (Compere)) - During the course of study on Hawaiian Encyrtidae now in progress, it has been discovered that this beneficial species is well established on Oahu, and apparently has been present for several years. A. stanleyi is a primary parasite of certain soft scales including Coccus hesperidum L. (brown soft scale), Saissetia coffeae (Walker)* (hemispherical scale) and S. oleae (Bernard) (black scale). A. stanleyi was originally introduced into California from South Africa in 1937 by the University of California Citrus Experiment Station at Riverside and became well established. According to records of the Hawaii Department of Agriculture, A. stanleyi was introduced into Hawaii from California in 1945. Although there are no previous reports of the establishment of this parasite in Hawaii, there are specimens, reared from parasitized scales, in the University of Hawaii collection which date from 1951. Locally, A. stanleyi has been reared from Coccus viridis (Green) (green scale) and C. elongatus (Signoret) as well as C. hesperidum and S. coffeae. (J. W. Beardsley).

A single specimen of a PLATASPID BUG (Coptosoma xanthogramma (White)) was taken in an ultraviolet light trap at the University of Hawaii campus in Honolulu on September 30, 1965. This is the first record of the family Plataspidae in the Hawaiian Islands. Numerous species of Coptosoma and related genera occur in tropical Asia and on eastern Pacific islands. C. xanthogramma has been taken on aircraft from the Philippine Islands by USDA Plant Quarantine personnel several times during recent years. (J. W. Beardsley).

A PUNCTURE-VINE STEM WEEVIL (Microlarinus lypriformis (Wall.)) killed all puncture-vine plants observed at the Puunene photographic station on Maui. Prior to release of this stem weevil in October 1964, puncture-vine (Tribulus cistoides) was photographed growing luxuriantly at the Puunene Station. The destruction of T. cistoides at Puunene has not been as rapid as on Oahu and Kauai, probably due to rich soil, competitive weeds and more frequent rainfall. M. lypriformis has extended its range to Lahaina, where it was found established on puncture-vine. This is approximately 10 miles from the nearest release point. (C. J. Davis).

AN APHID (Cupressobium maui Bradley) - This new species was described by Dr. G. A. Bradley in the Canadian Entomologist 97(6): 668-670. Specimens were collected from Cryptomeria japonica at Mahinahina koa grove, Maui, in May 1964 by Nobuo Miyahira and N. Cheatham. (C. J. Davis).

A living specimen of a CERAMBYCID BEETLE (Phoracantha semipunctata Fabr.) was collected by Val Dutro at his home on Kalena Drive, Kalini Valley, on the evening of August 15, 1965. This is believed to be the fourth specimen collected on Oahu. (G. A. Samuelson).

A GRASSHOPPER (Schistocerca vaga Scudder) - The sixth aerial application on Sand Island was made September 1, 1965. Following intensive surveys, 2 surviving adults, both females, were found during the month. Further applications will be made if a noticeable buildup of grasshopper populations occurs on the island. (H. Nakao).

*Williams, D. J. 1957. Entomologist 90: 314-315.

INTERCEPTIONS OF SPECIAL INTEREST AT U. S. PORTS OF ENTRY

Some important interceptions that were reported by the Plant Quarantine Division, ARS, USDA, during September 1965, follow. These reports are based on identifications received from Federal taxonomists at the U. S. National Museum during the month, and include any of special interest from recent months that were not previously reported.

GIANT AFRICAN SNAIL (Achatina fulica Bowdich) 3 times in baggage at Honolulu, Hawaii.

LEEK MOTH (Acrolepia assectella (Zell.)) twice in air cargo shipments of shallots (first records of interception on this host) at Dulles International Airport, Virginia.

CITRUS BLACKFLY (Aleurocanthus woglumi Ashby) twice in baggage; one time each at Miami, Florida, and at Laredo, Texas.

A DARKLING BEETLE (Blapstinus sp.) (a tenebrionid believed of some economic significance in some field crops in Chile) 4 times at New York, New York.

SEED BEETLES (Bruchus spp.) - B. lentis Forel 3 times in ships' stores; at Baton Rouge (2), Louisiana; Corpus Christi (1), Texas. B. signaticollis (Gyll.) (Central European and Mediterranean bruchid pest of lentils) 4 times in ships' stores; at Baton Rouge (3), Louisiana; Dover (1), Delaware.

A SEED BEETLE (Callosobruchus analis (F.)) (a widespread bruchid pest of legumes) once in ship's stores at Savannah, Georgia.

MEDITERRANEAN FRUIT FLY (Ceratitis capitata (Wied.)) 11 times in passengers' baggage; at Honolulu (10), Hawaii; New York (1), New York.

A TEPHRITID FLY (Ceratitis colae (Silv.)) once in air mail at Washington, D. C.

ASIATIC RICE BORER (Chilo suppressalis (Wlk.)) 2 times; once each in Hawaii and at San Diego, California.

A POWDER-POST TERMITE (Cryptotermes dudleyi Banks) (a Central and South American species) once at Charleston, South Carolina.

ORIENTAL FRUIT FLY (Dacus dorsalis Hend.) (or probably that species) 10 times; in air baggage at Honolulu (9), Hawaii; and in ship's stores at San Diego (1), California.

A NOCTUID MOTH (Earias sp.) (a genus comprising a number of destructive bollworm species in the Mediterranean, African and Southern Asiatic Regions) once in air baggage at John F. Kennedy International Airport, New York.

AN ANOBIID BEETLE (Ernobius sp.) (E. abietis (F.) is recorded as a destructive cone pest in parts of Europe and Russia) 5 times in air baggage; at Chicago (1), Illinois; and John F. Kennedy International Airport (4), New York.

A PYRAUSTID MOTH (Evergestis forficalis (L.)) (a pest of crucifers) once in ship's stores at New York, New York.

BEAN BUTTERFLY (Lampedes boeticus (L.)) once in air baggage at Honolulu, Hawaii.

A CECIDOMYIID MIDGE (P[illegible]eliella abietina Seitner) once in Picea glauca seed at Hoboken, New Jersey.

A WEEVIL (Premnotrypes sp.) 2 times in ships' stores; at Baltimore (1), Maryland; Savannah (1), Georgia.

EUROPEAN CHERRY FRUIT FLY (Rhagoletis cerasi (L.)) 93 times; at John F. Kennedy International Airport (89) and at New York (1), New York; San Pedro (3), Puerto Rico.

A STENOMID MOTH (Stenoma catenifer Wlsm.) 7 times; Brownsville (1), Texas; Miami (4), Florida; New Orleans (1), Louisiana; San Pedro (1), Puerto Rico.

WHITE GARDEN SNAIL (Theba pisana (Müller)) 54 times (34 times alive, 20 times dead); at Boston (4), Massachusetts; Charleston (6), South Carolina; Hoboken (1), New Jersey; Detroit (1), Michigan; Mobile (2) Alabama; New Orleans (22), Louisiana; New York (14), New York; Philadelphia (1), Pennsylvania; in Puerto Rico (1); Wilmington (2), North Carolina.

KHAPRA BEETLE (Trogoderma granarium Everts) 87 times; at Baltimore (2), Maryland; Charleston (12), South Carolina; Chicago (1), Illinois; Detroit (2), Michigan; Dulles International Airport (1) and Norfolk (14), Virginia; Galveston (1) and Houston (5), Texas; Jacksonville (2), Miami (1) and Tampa (1), Florida; New Orleans (4), Louisiana; New York (19), New York; Philadelphia (7), Pennsylvania; Portland (2), Oregon; San Juan (1), Puerto Rico; San Diego (1) and San Pedro (4), California; Savannah (4), Georgia; Seattle (1), Washington; Toledo (1) Ohio; Wilmington (1), North Carolina.

OAT CYST NEMATODE (Heterodera avenae) 2 times; John F. Kennedy International Airport (1) and New York (1), New York.

GRASS CYST NEMATODE (Heterodera punctata) once in baggage at John F. Kennedy International Airport, New York.

GOLDEN NEMATODE (Heterodera rostochiensis) 10 times; San Francisco (4), California; John F. Kennedy International Airport (2) and New York (1), New York; Boston (1), Massachusetts; Chicago (1), Illinois; Hoboken (1), New Jersey.

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 November 5, 1965 Number 45

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GRASSHOPPER populations expected to be somewhat lower in many areas of Minnesota in 1966. (p. 1249). SPOTTED ALFALFA APHID continues heavy on alfalfa in Arizona. (p. 1239). Damage to corn by EUROPEAN CORN BORER in South Dakota attributable mainly to first generation. First GREENBUG specimens of season noted on volunteer wheat in Oklahoma. (p. 1240). SORGHUM MIDGE causing severe damage to late-planted sorghums in Arizona. (p. 1241).

TOMATO FRUITWORM increasing on lettuce in Arizona, controls required in many fields. (p. 1242).

Additional male PINK BOLLWORM moths taken in sex-lure traps in Riverside and Imperial Counties, California; visual inspections negative for females and larvae. Adults continue to be taken in sex-lure traps in Yuma County, Arizona; larva found during field inspection on Yuma County side of Yuma-Maricopa county line. Numbers of larvae in gin trash higher in some areas of Texas than in 1964. (p. 1243).

Number of SOUTHERN PINE BEETLE infested trees in areas of Georgia higher than at any time since 1963; pest continues at high level in eastern Tennessee; number of infested trees decreased by September in Mississippi. (p. 1244).

All surveys and detection efforts concerning JAPANESE BEETLE in California now negative for 3 years and infestation assumed eradicated. (p. 1249).

DETECTION

New State records reported were BLUEGRASS BILLBUG (*Sphenophorus parvulus*) in Utah (p. 1241) and a WEEVIL (*Brachyrhinus rugosostriatus*) in Arizona (p. 1249).

A new county record was BERMUDAGRASS MITE (*Aceria neocynodonis*) in Woodward County, Oklahoma, (p. 1241).

CORRECTIONS and ADDITIONAL NOTES

See page 1249.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1251).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Wheat and Grain Sorghum in Oklahoma in 1964. (p. 1252).

Estimated Damage and Crop Loss Caused by Insect/Mite Pests in California in 1964. (pp. 1253-1260).

Reports in this issue are for week ending October 29 unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

NOVEMBER 1965

The Weather Bureau's 30-day outlook for November calls for temperatures to average below seasonal normals over the eastern quarter of the Nation with greatest departures in the Northeast. Above normal averages are expected from the Mississippi Valley westward to the Pacific Coast except for near to below normal in the west Gulf Coast Region. Precipitation is expected to be subnormal except for near to above normal in the Pacific Northwest and near normal totals along the Gulf Coast, in the Great Lakes Region and in northern New England. In the latter areas a substantial portion of the precipitation is expected to be in the form of snow.

Weather forcast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

WEATHER OF THE WEEK ENDING NOVEMBER 1

HIGHLIGHTS: (1) Driest week of the year, most of Nation. (2) Severe smog, record hot spell Los Angeles area. (3) Torrential rain in extreme southeast Florida.

TEMPERATURE: High barometric pressure and sunny weather prevailed over most of the Nation during the past week. Temperatures over the western half averaged slightly warmer than the previous week and weekly averages in many sections were 5° to 10° above the normal. A stagnant High over the West produced the circulation that caused a record heat wave in Los Angeles. Temperatures reached 90° or higher on 10 consecutive days ending with October 29; the last time this record was equaled was in July 1886. This same wind pattern, a light northeasterly wind from the Mojave Desert, caused the worst smog situation that has affected Los Angeles since 1955. By the weekend, the winds had shifted, temperatures fell, and the smog was diminished. However, the abnormal heat continued in the Great Central Valley of California. Over eastern United States, the weather was cool and sunny during the first half of the week followed by warming. Weekly temperatures averaged 4° to 8° below normal in most areas. Maximum temperatures in New York were near 40° as late as Friday but climbed into the 60's on Sunday.

FREEZING: The freezes of October 25 over the Southeast were repeated on October 30, when Elkins, West Virginia, reported a low of 14°. The freeze line apparently moved some 50 miles closer to the northeast Gulf Coast and to the South Carolina coast.

PRECIPITATION: This was one of the driest weeks in recent years with precipitation confined to the Pacific Northwest, parts of the Great Lakes and New England, and the Florida area. Amounts were heavy only in the Fort Lauderdale area where about 14 inches fell in 24 hours (that station received a record 42 inches in October, most of it falling in 2 storms). Considering the 48 States, more than 90 percent of the area received no measurable rain last week; only 5 percent had as much as 0.25 inch and about 1 percent as much as 0.75 inch in 7 days. In Oklahoma, it was the first week in 23 months when no station received even a sprinkle. Snow came to some spots near the Great Lakes and to parts of Pennsylvania and New York with 3 to 5 inches in northern New York. Strong winds struck the Buffalo-Syracuse area on the 31st but with little or no damage. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Continues heavy in Yuma Valley, Yuma County, and in Buckeye and Chandler areas of Maricopa County. (Ariz. Coop. Sur.). NEW MEXICO - Light in alfalfa near Belen, Valencia County. (Heninger). OKLAHOMA - Averaged 120 per 10 sweeps in alfalfa in Payne County; ranged 2-15 per 25 sweeps in Woodward County. (Okla. Coop. Sur.). ARKANSAS - Only occasional specimen found in northwest area. (Ark. Ins. Sur.). KANSAS - Present in most alfalfa checked in south central and southwest districts; none found in southeast district. (Simpson). NEBRASKA - Very light in Lancaster County. (Roselle). WYOMING - No specimens taken in survey of alfalfa fields of Natrona, Johnson, Sheridan, Park, Big Horn, Washakie and Hot Springs Counties. (Marks). WISCONSIN - Populations somewhat higher than in previous week but average only 1 per 10 sweeps in more heavily infested fields. Nymphs continue and oviparous forms show egg formation. No males collected. (Wis. Ins. Sur.).

PEA APHID (Acyrthosiphon pisum) - NEW MEXICO - Light on alfalfa near Belen, Valencia County; light in Eddy and Lea Counties. (Heninger, Kloepfer). KANSAS - Ranged 200-400 per 10 sweeps in alfalfa in Crawford and Neosho Counties. Much lower (10-15 per 10 sweeps) in alfalfa in most other southern counties. (Simpson). NEBRASKA - Ranged 200-500 per sweep in Lancaster County. (Roselle). WYOMING - Adults and nymphs ranged 0-12 per 100 sweeps in alfalfa in Park, Big Horn, Washakie and Hot Springs Counties. (Marks). WISCONSIN - Populations fluctuate considerably. Small percent are oviparae. Of 50 stems examined from fields with 40-100 aphids per sweep, no eggs observed. About 10 percent of population diseased; lady beetles and nabids common in more heavily infested fields. (Wis. Ins. Sur.). MASSACHUSETTS - Ranged 14-27 per 100 sweeps October 26 in southern Berkshire County and 5-16 per 100 sweeps in Hampshire and Hampden Counties October 28. (Shaw).

MEADOW SPITTLEBUG (Philaenus spumarius) - MASSACHUSSETTS - Ranged 2-8 per 100 sweeps in southern Berkshire County October 26 and 1-2 per 100 sweeps in Hampshire and Hampden Counties October 28. (Shaw).

POTATO LEAFHOPPER (Empoasca fabae) - MASSACHUSETTS - Ranged 1-2 per 100 sweeps in southern Berkshire County October 26 and averaged 1 per 100 sweeps in Hampshire and Hampden Counties October 28. (Shaw). WISCONSIN - Nymphs persist in several alfalfa fields; averaged as high as 4 per 10 sweeps. (Wis. Ins. Sur.).

PAINTED LEAFHOPPER (Endria inimica) - MASSACHUSETTS - Ranged 1-8 per 100 sweeps in southern Berkshire County October 26 and 1-2 per 100 sweeps in Hampshire and Hampden Counties October 28. (Shaw).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Ranged 5-7 adults per 25 sweeps in Chaves County alfalfa. (Mathews). ARIZONA - Decreasing rapidly in alfalfa throughout State; with some exceptions, infestations considered noneconomic. (Ariz. Coop. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - OKLAHOMA - Small numbers remain active in alfalfa; 1-3 per 25 sweeps in Major and Woodward Counties and 5 per 10 sweeps in Payne County. (Okla. Coop. Sur.). KANSAS - Low numbers present in most alfalfa checked in southern half of State. (Okla. Coop. Sur.). NEBRASKA - Averaged 20 per sweep in alfalfa in Lancaster County. (Roselle). OHIO - Surveys of alfalfa in central and eastern areas indicate this one of most plentiful insects on crop. Averaged 1 per sweep in Coshocton County; 1 per 2 sweeps in Delaware County. Few obtained in Guernsey and Muskingum Counties. (Rose). MASSACHUSETTS - Ranged 3-18 per 100 sweeps in southern Berkshire County October 26 and 1-3 per 100 sweeps in Hampshire and Hampden Counties October 28. (Shaw).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Adults per 25 sweeps in alfalfa ranged 12-15 in Chaves County (Mathews) and 2-3 near Belen, Valencia County (Heninger). WYOMING - Adults in alfalfa averaged 14 per 100 sweeps in Park, Big Horn, Washakie and Hot Springs Counties. (Marks).

ALFALFA WEEVIL (Hypera postica) - MASSACHUSETTS - Ranged 4-15 per 100 sweeps in southern Berkshire County October 26; averaged 1 per 100 sweeps in Hampshire and Hampden Counties October 28. Larger numbers appeared in southern Berkshire County in mid-October; relatively little oviposition to October 28. (Shaw). OHIO - Adults increasing on alfalfa in eastern area. Maximum number was collected in Guernsey County; 18 per 25 sweeps. Fields in Coshocton and Muskingum Counties yielded 11 and 8 per 25 sweeps respectively. Insignificant numbers noted in Delaware and western Coshocton Counties. Above are daytime collections. (Rose). At 5:00 p.m. in Mahoning County, 10 sweeps yielded 1 adult and 2 larvae; 18 adults and 3 larvae collected at 7:30 p.m. in same field. (Niemczyk, Flessel).

CLOVER ROOT CURCULIO (Sitona hispidula) - MASSACHUSETTS - Ranged 1-7 per 100 sweeps in southern Berkshire County October 26; ranged 1-3 per 100 sweeps in Hampshire and Hampden Counties October 28. Sitona spp., particularly S. hispidula, more abundant this fall. (Shaw).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - NEBRASKA - Adults ranged 2-8 per sweep in all alfalfa surveyed in Lancaster County; no other Diabrotica spp. adults found. (Roselle). KANSAS - Numbers low in most alfalfa checked in southern half of State. (Simpson).

A SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata tenella)- NEW MEXICO - Ranged 5-14 adults per 25 sweeps in Valencia County alfalfa near Belen. (Heninger). Ranged 6-8 per 25 sweeps in alfalfa near Roswell, Chaves County. (Mathews).

YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) - ARIZONA - Scattered in Yuma County alfalfa; averaged 40 per 100 sweeps in infested fields. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - OKLAHOMA - Damage continues in northwest area. Heavy in alfalfa in Waynika area, Woods County. Averaged 0.5 per square yard in wheat in Woodward County. (Okla. Coop. Sur.).

EUROPEAN CORN BORER (Ostrinia nubilalis) - SOUTH DAKOTA - Populations very low in fields surveyed in Douglas, Gregory, Hutchinson, Lyman and Tripp Counties. Damage mainly attributable to first generation, all second-generation larvae in third instar. (Jones).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - TEXAS - This and Diatraea saccharalis (sugarcane borer) light to moderate locally on field corn in Hidalgo County; both species observed on same stalks. (Texas Coop. Rpt., Page).

GRASSHOPPERS - SOUTH DAKOTA - More heavily infested fields in north central and western areas checked for eggs. Highest egg counts found in Corson, Perkins, Meade, Haakon, Pennington, Fall River, Harding, Butte and Lawrence Counties. Grasshoppers caused light damage to borders of winter wheat in Creighton area, Pennington County. (Burge, Zimmerman). WISCONSIN - Melanoplus femurrubrum (red-legged grasshopper) females continue egg laying; mating noted. (Wis. Ins. Sur.). NEBRASKA - M. femurrubrum ranged light to moderate in field margins in northeast section of State. (Rhine).

GREENBUG (Schizaphis graminum) - OKLAHOMA - First specimens of season noted in volunteer wheat in western Major County. (Okla. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum madis) - OKLAHOMA - Light (1-7 per 25 sweeps) in volunteer barley and Johnson grass in Major County. (Okla. Coop. Sur.).

SIX-SPOTTED LEAFHOPPER (Macrosteles fascifrons)- OKLAHOMA - Ranged 50-75 per 25 sweeps in wheat and 40-70 per 25 sweeps in alfalfa in Major and Woodward Counties. (Okla. Coop. Sur.).

A LEAFHOPPER (Hortensia similis) - FLORIDA - Adults taken from grasses and other herbs 4.5 miles east of Silver Springs, Marion County. (Mead). Pest of pastures in southern part of State. (Fla. Coop. Sur.).

SORGHUM MIDGE (Contarina sorghicola) - ARIZONA - Heavy numbers continue to severely damage late-planted sorghums in Cochise County. (Ariz. Coop. Sur.). OKLAHOMA - Adults noted in Johnson grass in Major County. (Okla. Coop. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - TEXAS - Light to moderate and widespread on forage and small grains in eastern half of State. (Texas Coop. Rpt.). FLORIDA - This and Feltia subterranea (granulate cutworm) caused light damage to golf driving range in Gainesville, Alachua County. (Habeck, Kuitert).

CUTWORMS - OKLAHOMA - Light to moderate and damaging wheat in Washita County; controls underway in some fields. (Okla. Coop. Sur.).

ARMYWORM (Pseudaletia unipuncta) - ARKANSAS - Larvae destroyed 3 acres of wheat in Cross County. (Ark. Ins. Sur.).

A GRASS MOTH (Crambus sperryellus) - CALIFORNIA - Locally heavy in lawns in Grass Valley, Nevada County. (Cal. Coop. Rpt.).

MOLE CRICKETS (Scapteriscus spp.) - FLORIDA - Mixture of adults probably S. acletus (southern mole cricket) and S. vicinus (changa), localized and severely damaging mixture of turf grasses on golf driving range in Gainesville, Alachua County. Heavy on over 50 percent of range; severe in spots. (Habeck, Kuitert).

BLUEGRASS BILLBUG (Sphenophorus parvulus) - UTAH - Damaged several lawns in Salt Lake City and Holladay, Salt Lake County, in August. Det. by R. E. Warner. This is a new state record. (Knowlton).

BERMUDAGRASS MITE (Aceria neocynodonis) - OKLAHOMA - Caused moderate to heavy damage in scattered Bermuda grass lawns in Woodward County during summer. This is a new county record. (Okla. Coop. Sur.).

FRUIT INSECTS

CITRUS THRIPS (Scirtothrips citri) - ARIZONA - Caused light damage on some new growth of young trees in areas of Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

MITES - ARIZONA - Brevipalpus lewisi (citrus flat mite) and Eotetranychus yumensis (Yuma spider mite) continue as problems on citrus in Yuma County. Some groves still require controls. (Ariz. Coop. Sur.).

A PAPILIONID BUTTERFLY (Papilio sp.) - ARIZONA - Larvae spotted on citrus and causing concern in Mesa area, Maricopa County. (Ariz. Coop. Sur.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Chemical Control Zone - Surveys in States of Nuevo Leon, Tamaulipas, Sonora and Baja California negative. Third and final spray applied to 514 trees in Hermosillo, Sonora; second and third sprays applied to 2,702 trees on 2 properties at Linares, Nuevo Leon. Biological Control Zone - Total of 682 infested trees found on 12 properties in Municipios Guemez, Cuidad Victoria and Padilla, Tamaulipas. Total of 46 infested leaves found on 24 trees on 4 properties at Magueyes, Municipio Mainero, Tamaulipas. Because of nearness infestation to chemical control zone, 798 trees on 40 properties at Magueyes received first spray treatment. Parasitism reported from 18 states and 2 territories. Parasite liberations necessary on 57 properties in States of Campeche, Jalisco, Oaxaca, Puebla, San Luis Potosi, Tabasco, Tamaulipas, Veracruz, Yucatan and Zacatecas. Parasite captures possible on 14 properties in Michoacan, Tamaulipas and Yucatan. (PPC Mex. Reg., Sept. Rpt.).

WALNUT APHID (Chromaphis juglandicola) - CALIFORNIA - Adults heavy on walnut trees in Carlsbad, San Diego County. (Cal. Coop. Rpt.).

HICKORY SHUCKWORM (Laspeyresia caryana) - OKLAHOMA - Pecans and hickory nuts heavily damaged in Mayes County. (Okla. Coop. Sur.).

PECAN WEEVIL (Curculio caryae) - ALABAMA - Light to medium, 1-3 larvae per nut, in pecan orchards in Macon County. (Barwood). OKLAHOMA - Moderate in pecans in Mayes County. (Okla. Coop. Sur.).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - WISCONSIN - Colonies high on flowering crab apple in Beloit October 27 and eggs abundant on leaf and bud scar areas. Colonies just getting established on apple at Madison October 28. Majority winged forms. No eggs noted at Madison Location. (Wis. Ins. Sur.).

APPLE MAGGOT (Rhagoletis pomonella) - WISCONSIN - Single adult caught at Madison October 19, unusually late in season. (Wis. Ins. Sur.).

TWIG GIRDLER (Oncideres cingulata) - NORTH CAROLINA - Adults cutting twigs off persimmon trees in Dare County. (Spake, Scott).

TRUCK CROP INSECTS

MORNING-GLORY LEAF MINER (Bedellia somnulentella) - CALIFORNIA - Causing heavy leaf blotch damage to sweetpotato foliage in Fresno, Fresno County. (Cal. Coop. Rpt.).

CABBAGE LOOPER (Trichoplusia ni) - CALIFORNIA - Larvae heavily damaged sugar peas in Chula Vista, San Diego County. (Cal. Coop. Rpt.). ARIZONA - Moderate to heavy populations continue to damage lettuce in Yuma and Maricopa Counties. Controls necessary in most fields. (Ariz. Coop. Sur.). NEW MEXICO - No larvae found in lettuce checked near Moriarty, Torrance County, and Belen, Valencia County. (Heninger).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Continues light on lettuce in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

TOMATO FRUITWORM (Heliothis zea) - ARIZONA - Larvae increasing on lettuce in Yuma and Maricopa Counties; appear heaviest in Glendale and Goodyear areas of Maricopa County. Controls necessary in many fields. (Ariz. Coop. Sur.).

BEAN LEAF ROLLER (Urbanus proteus) - FLORIDA - Larvae severely damaged leaves of snap beans at Wimauma, Hillsborough County. (Baker, Daniel, Oct. 21).

MELON APHID (Aphis gossypii) - ARIZONA - Moderate on lettuce and cantaloup in Yuma County. Some controls required. (Ariz. Coop. Sur.).

DESERT CORN FLEA BEETLE (Chaetocnema ectypa) - ARIZONA - Adults remain numerous and continue some damage to lettuce in Peoria area, Maricopa County. (Ariz. Coop. Sur.).

WIREWORMS - IDAHO - Damage to potatoes averaged 14 percent in 640-acre field in new irrigation project at Melba. Damage by another species, probably Limonius sp., averaged 14 percent in 40-acre field in Sunny Slope area, Canyon County. (Homan).

CALIFORNIA PRIONUS (Prionus californicus) - IDAHO - Spotted infestation found on roots during renovation of hopyard at Notus. (Homan).

SPIDER MITES (Tetranychus spp.) - ARIZONA - Heavy and damaging late-planted cantaloups in Yuma County. (Ariz. Coop. Sur.). CALIFORNIA - T. telarius (two-spotted spider mite) medium on string beans locally in Huntington Beach, Orange County. (Cal. Coop. Rpt.).

CABBAGE MAGGOT (Hylemya brassicae) - CALIFORNIA - Larvae heavy on parsnips in Eureka, Humboldt County. (Cal. Coop. Rpt.).

TOBACCO INSECTS

GREEN PEACH APHID (Myzus persicae) - WISCONSIN - Numerous colonies noted on regrowth tobacco in Dane County and ornamental tobacco at Madison. (Wis. Ins. Sur.)

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Recovery of males continues in sex-lure traps in Bard, Imperial County, and Blythe, Riverside County. To October 29, total of 17 males confirmed as trapped in State; 5 in light traps and 12 in sex-lure traps. Auxilliary survey in visual inspections negative for females and larvae. (Cal. Coop. Rpt.). ARIZONA - Adults continue in sex-lure traps in Yuma County. One collected at Salome in northern Yuma County. Larva found during field inspection near Yuma-Maricopa county line on Yuma side. Additional infestations continuously found in Graham and Maricopa Counties. (Ariz. Coop. Sur.). TEXAS - Of 25 bolls inspected in Madison County field, 14 infested. (Texas Coop. Rpt., Barham). Lint cleaner inspections in lower Rio Grande Valley decreased during early September and increased in counties farther north; 2,000 larvae taken from bale of cotton in coastal bend area; increase number of larvae noted in Houston and Waco areas over that of 1964. Total of 25,098 larvae recovered from gin trash machine in Taylor area from 172 bushels of trash compared with 4,810 larvae from 248 bushels of trash in 1964. Averaged 203 larvae per bushel of trash compared with 107 in 1964 in Houston area. "Hot spot" noted in Washington County; 30 bushels of trash yielded 46,710 larvae. Heavier in Coyanosa and El Paso sections also. (PPC South. Reg., Sept. Rpt.).

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Boll count in Madison County revealed larvae in 52 percent of bolls. (Texas Coop. Rpt., Barham).

A WEEVIL (Anthonomus sp.) - ARIZONA - Adults found in gin trash at Roll; this is second verification west of "no-stub line." Infestations also found in areas south of Stanfield, Pinal County; approximately 1,000 acres show some degree of infestation. Heavy in Wintersburg-Tonopah area of Maricopa County. (Ariz. Coop. Sur.).

COTTON APHID (Aphis gossypii) - ARIZONA - Continues moderate to heavy on or near opened or partially opened bolls; causing severe staining of lint in many fields of Yuma County. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - VIRGINIA - Continues general management problem in Piedmont and some coastal counties; no increase in intensity noted. In Amelia County, 120 infestations plotted in late September; varied 1-1.5 acres in size; 60 percent of new spots near damaged timber recently salvaged. Survey in Buckingham County September 20, revealed 173 separate spots on State and private lands; 35 spots found on Prince Edward State Forest and 6 on Cumberland State Forest. Found throughout Richmond district; only few new spots noted; most activity noted in areas where no control undertaken in past. Remains active in loblolly, shortleaf and Virginia pines in Amelia, Buckingham, Appomattox, Cumberland, Nottaway, Lunenburg, Charlotte, Mecklenburg and Halifax Counties. Continues active in Accomack and Northumberland Counties. (Va. For. Pest Rpt., Sept. Summ.). NORTH CAROLINA - Large spots continue to be found in upper Piedmont in Davie, Forsyth, Iredell and Yadkin Counties. Some increase in Granville and Vance Counties noted in early September; 50-75 new spots detected. Slight decline in activity apparent in Hertford-Gates County area. New outbreaks detected in Dare, Hyde and Perquimans Counties; extremely active in Dare and Hyde Counties in wet, inacessible areas. (N. C. Div. For.). Localized infestation in Wayah district of National forests continues. SOUTH CAROLINA - Continues at moderate level on Andrew Pickens district of National forests. Chemical control and salvage reducing losses. Infestation on Francis Marion National Forest collapsed early in 1965; did not reoccur. No new outbreaks found on Enoree or Tyger districts. TENNESSEE - Continues at high level in eastern area; averaged 170.5 infested trees per 1,000 acres on Oak Ridge Atomic Energy Reservation and adjoining lands. Salvage efforts continue. Numerous large spots detected on private lands in Anderson, Knox, Loudon and Roane Counties. GEORGIA - Activity increased during summer on Chattooga and Tallulah districts. Recent surveys and evaluations revealed more infested trees than at any time since 1963. Chemical control continued. Populations endemic on Uncle Remus district of Oconee National Forest and on Piedmont Wildlife Refuge. (South. For. Pest Rptr., Oct.).

ALABAMA - D. frontalis increased in summer on Talladega National Forest; controls reactivated on Tuscaloosa and Oakmulgee districts; increased on Talladega and Shoal Creek districts; 2,666 trees infested on Shoal Creek district in August. Activity increasing on private land in Jefferson and adjoining counties. Some trees salvaged. (South. For. Pest Rptr., Oct.). Locally light and spotted in southwest Fayette County; some controls applied. (Pitts). MISSISSIPPI - Activity increased to endemic level on Homochitto National Forest and nearby private lands during summer. June survey showed approximately 33.8 infested trees per 1,000 acres; controls intensified. September survey indicated decrease to about 5 infested trees per 1,000 acres. Infestations noted on private land in Wilkinson, Amite, Adams and Franklin Counties. LOUISIANA - Infestations remained low in Allen Parish. Infested trees decreased from 2.27 per 1,000 acres in May to 0.67 in August. New infestation in Calcasieu Parish still active; confined to small area southwest of Sulphur. August survey showed 60 infested trees per 1,000 acres. Small outbreak of few spots reported in West Feliciana Parish. TEXAS - Activity increased on Angelina National Forest near Broaddus; 48 spots containing 306 brood trees controlled June-July. Populations increased on Big Thicket ranger district during early summer; 1,096 brood trees treated June-August. July survey showed decline in population. (South. For. Pest Rptr., Oct.).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - MISSISSIPPI - Continues problem on cutover areas of Homochitto, Bienville and De Soto National Forests. LOUISIANA - Continues problem on Kisatchie National Forest, particularly on disturbed sites in low areas. Less damage on Winn ranger district than in past 2-3 years. Up to 70 loblolly pines heavily infested on some low, cutover sites on Catahoula ranger district. TEXAS - Populations increased in areas where D. terebrans associated with D. frontalis (southern pine beetle). Controls continued on National forest to prevent buildup. (South. For. Pest Rptr., Oct.). ARKANSAS - Increased activity noted in local situations. Cutover and burned areas showed expected increase; lightning-struck trees and trees damaged in

logging operations also infested. (Ark. For. Pest Rpt.)

CONIFER BARK BEETLES (Dendroctonus spp.) - VIRGINIA - Noted in scattered spots of 2-5 trees in Brunswick County and on single tree in Greensville County. Killing 3 loblolly pines in spot in King William County. Infesting several trees in spots in Orange, Albemarle, Richmond and Westmoreland Counties. Active in Virginia and shortleaf pines in Halifax (5 spots, some with D. frontalis present) and Lunenburg (2 spots) Counties. Adults widespread in loblolly pine in mainland counties of Portsmouth district. (Va. For. Pest Rpt., Sept. Summ.).

ENGRAVER BEETLES (Ips spp.) - VIRGINIA - Normal seasonal increase in State; perhaps above normal in Brunswick County. Active in spots (one-tenth to one acre) in 10-15 spots in Brunswick County and 1 spot in Dinwiddie County. Infesting 1-3 trees in 3 spots in Halifax County, 3 trees in one spot in Albemarle County and killing several Virginia pines in 3 locations in Franklin County. Increasing in single spots in Middlesex, Richmond and Westmoreland Counties. (Va. For. Pest Rpt., Sept. Summ.).

PALES WEEVIL (Hylobius pales) - VIRGINIA - Damage noted in 2 loblolly pine plantations in Buckingham County (scattered seedlings) and in 3 loblolly pine plantations in Amelia County. Loblolly seedling mortality noted in Nansemond County; activity about same as in 1964. (Va. For. Pest Rpt., Sept. Summ.).

WHITE-PINE WEEVIL (Pissodes strobi) - VIRGINIA - Infested 5 trees in 1-acre plantations in Augusta County; causing considerable damage to 2 plantations in Washington County. (Va. For. Pest Rpt., Sept. Summ.).

PINE CHAFER (Anomala oblivia) - NORTH CAROLINA - Over 100 acres of 4 to 5-year-old loblolly pine plantations attacked in Columbus and Brunswick Counties. (South. For. Pest Rptr., Oct.).

RED-HEADED PINE SAWFLY (Neodiprion lecontei) - TEXAS - Partial defoliation of loblolly pines observed in Bastrop, Polk, Rusk and Trinity Counties. (Texas For. Serv.; South. For. Pest Rptr., Oct.). LOUISIANA - Several infestations reported; defoliating pine seedlings on Kisatchie National Forest, and on private lands. No serious damage noted. (South. For. Pest Rptr., Oct.). VIRGINIA - Light defoliation noted in 4 locations on shortleaf pines and in 2 areas on Virginia pines; several trees per location. Partial defoliation of loblolly seedlings noted in Westmoreland County in early October. (Va. For. Pest Rpt., Sept. Summ.).

CONIFER SAWFLIES (Neodiprion spp.) - NORTH CAROLINA - Scattered defoliation occurred on approximatly 100 acres of longleaf pines in Brunswick County. FLORIDA - Heavy on large tract of slash pine in Taylor County; controls underway on commercial timber. (South. For. Pest Rptr., Oct.).

BALSAM WOOLLY APHID (Chermes piceae) - NORTH CAROLINA - Surveys completed in Great Smoky Mountains National Park during August. Additional mortality detected in vicinity of Mount Sterling where infestations known to occur since 1963. Some spread noted from area of infestation near Cataloochee Balsam in 1964. No new centers of infestation found. (South. For. Pest Rptr., Oct.).

SPRUCE BUD SCALE (Physokermes piceae) - RHODE ISLAND - Heavy on spruce in North Providence, Providence County. Some crawlers still active. (Hartley).

SPRUCE NEEDLE MINER (Taniva albolineana) - NEVADA - Larvae present on 31 spruce trees at Bowers Mansion and on adjacent property in Washoe Valley. No infestations found on other trees in Washoe Valley or in Pleasant Valley, Washoe County. No infested trees found in Sparks, but one tree of 20 checked in Reno infested. Infested tree in Reno not moved from Bowers Mansion to Reno as other 3 infested trees reported previous week. This is second known infested area of State. (Bechtel, Cooney, Rivers, Uriarte).

NANTUCKET PINE TIP MOTH (Rhyaconia frustrana) - VIRGINIA - Heavy on most plantations of loblolly and Virginia pines at Dulles International Airport in Fairfax and Loudoun Counties. Damage remains widespread in Portsmouth district. (Va. For. Pest Rpt., Sept. Summ.).

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - VIRGINIA - Larvae caused death of scattered loblolly pine seedlings in unfumigated portion of seedbeds in New Kent nursery. (Va. For. Pest Rpt., Sept. Summ.).

PINE TUBE MOTH (Argyrotaenia pinatubana) - MARYLAND - Moderate on white pine locally in Baltimore County. (U. Md., Ent. Dept.).

AN APHID (Lachnus salignus) - CALIFORNIA - Heavy on willow trees in Arcata, Humboldt County. (Cal. Coop. Rpt.). NEVADA - Heavy on willow in southern Washoe County (Bechtel, Ting) and in Elko, Elko County. (Earnist, Maloney). UTAH - This and leaf-infesting aphids still very numerous on some weeping willows in Salt Lake City area, Salt Lake County. (Knowlton). IDAHO - Masses found on bark of willows including corkscrew willow in Caldwell and Boise. (Holman, Graves). SOUTH DAKOTA - Viviparous apterae and nymphs abundant on some ornamental willows in Brookings area. (Kieckhefer). MARYLAND - Abundant on pussy willow at Adelphi, Prince Georges County. (U. Md., Ent. Dept.).

ASIATIC OAK WEEVIL (Cyrtepistomus castaneus) - VIRGINIA - Evident on hardwoods in all counties of Abingdon district. (Va. For. Pest Rpt., Sept. Summ.).

A LEAF-MINING WEEVIL (Odontopus calceatus) - TENNESSEE - Caused widespread damage to yellow-poplar and magnolia in eastern area. (South. For. Pest Rptr., Oct.).

A SEED BEETLE(Amblycerus robinae) - OHIO - Damaged honeylocust seeds in Delaware County; 80-90 percent of seeds infested with larvae in some areas. (Galford, Oct. 19).

TWIG GIRDLER (Oncideres cingulata) - TEXAS - Moderate and widespread on mimosa trees in Fort Bend County. (Texas Coop. Rpt., Sparks).

LOCUST LEAF MINER (Xenochalepus dorsalis) - TENNESSEE - Caused extensive browning of black locust foliage in vicinity of Newport, Chinch Mountain and other eastern and central areas. (South. For. Pest Rptr., Oct.).

FALL CANKERWORM (Alsophila pometaria) - NORTH DAKOTA - Emergence of females continues but considerably lower than in past few years. (Frye). WISCONSIN - Females very active past week; few males appearing. (Wis. Ins. Sur.).

A PHYCITID MOTH (Euzophera ostricolorella) - VIRGINIA - Large number of galleries and rhizomorphs of Armillaria mellea (a root rot fungus) in yellow-poplar in Westmoreland County. (Va. For. Pest Rpt., Sept. Summ.).

A CLEARWING MOTH (Paranthrene robiniae) - CALIFORNIA - Larvae and pupae medium on weeping willow nursery stock in Vista, San Diego County. (Cal. Coop. Rpt.).

A LEAF ROLLER MOTH (Platynota stultana) - OHIO - Infested greenhouse roses in Columbus, Franklin County. (Kiplinger, Holdsworth, Oct. 22).

MORNING-GLORY LEAF MINER (Bedellia somnulentella) - CALIFORNIA - Larvae and pupae heavy on morning-glory in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - OHIO - Damaging chrysanthemums in Portsmouth, Scioto County. (Mowbray, Delaplane, Oct. 21). FLORIDA - Adults light on stem of gladiolus on gladiolus farm in Blountstown, Calhoun County. (Albritton, Brown, Oct. 17).

CRAPEMYRTLE APHID (Myzocallis kahawaluokalani) - ALABAMA - Aphids, apparently this species, heavy and general throughout State; continues present on most

plants not defoliated. (McQueen).

A PSYLLID (Trioza alacris) - CALIFORNIA - Nymphs and adults heavy on Laurus nobilis locally in Anaheim, Orange County. (Cal. Coop. Rpt.).

LACE BUGS - RHODE ISLAND - Stephanitis sp. very heavy on Pieris japonica in large nurseries in Middletown, Newport County. Noted also in Providence, Providence County, and North Kingstown, Washington County. (Mathewson, Veilleux, Robbins). FLORIDA - Adults and nymphs of Teleonemia scrupulosa (lantana lace bug) general and severely damaging lantana at Gainesville, Alachua County; plants in 100 feet of planter boxes. Most leaves lost green color; some with heavy spotting. (Mead, Oct. 29).

MEALYBUGS - CALIFORNIA - Ferrisia virgata (striped mealybug) locally heavy on chrysanthemums in Brawley, Imperial County. This species subject of intensive control treatments. Pseudococcus adonidum (long-tailed mealybug) medium on dwarf myrtle nursery stock in Reedley, Fresno County. (Cal. Coop. Rpt.).

A SOFT SCALE (Pulvinaria ericicola) - RHODE ISLAND - Heavy on azaleas in Kingston, Washington County, week ending September 10. Det. by D. J. Williams. Reported as probably Pulvinaria ericicola in CEIR 15(38): 1103. (Mathewson).

A SPIDER MITE (Oligonychus coniferarum) - CALIFORNIA - Medium to heavy in Italian cypress nursery stock in Bonsall, San Diego County. All stages noted. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - MICHIGAN - Much higher numbers than usual annoying hunters in southern section. Frosts past week reduced problem. (Dowdy). NORTH CAROLINA - Continue abundant along coast from Hyde to Brunswick County. Lighting at rate of 8-10 per minute in one area. (Ashton). LOUISIANA - Jefferson Parish Department of Mosquito Control larval collections for week ending October 28 included Aedes sollicitans (salt-marsh mosquito), Anopheles crucians, A. quadrimaculatus (common malaria mosquito), Culex pipiens quinquefasciatus (southern house mosquito), C. salinarius, and Uranotaenia sapphirina. Light trap collections decreased during period due to cooler weather. Culiseta inornata found for first time this year. (Stokes).

HORN FLY (Haematobia irritans) - OKLAHOMA - Ranged 100-300 per head on cows in Major County. Moderate in Bryan and Cotton Counties. (Okla. Coop. Sur.).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Moderate on beef cattle checked in Bryan and Cotton Counties. (Okla. Coop. Sur.).

BLACK FLIES - UTAH - Numerous and annoying deer hunters in Logan and Blacksmith Fork Canyons, Cache County. (Knowlton).

CATTLE LICE - UTAH - Becoming more apparent in herds in Cache County. (Knowlton, Olson).

VESPID WASPS - UTAH - Polistes fuscatus entering many homes and schoolrooms in Cache and Salt Lake Counties. P. fuscatus, yellow jackets and flies continue numerous about weeping willows heavily infested with Lachnus salignus (an aphid) at Logan, Cache County. Yellow jackets annoying deer hunters in Logan Canyon, Cache County, and at Monte Cristo, Rich County. (Knowlton). OKLAHOMA - Females of several species heavy in and around homes in Beaver County. (Okla. Coop. Sur.).

A BROWN SPIDER (Loxosceles reclusa) - TEXAS - Noted in Burnet County. (Measures).

HOUSEHOLD AND STRUCTURAL INSECTS

BOXELDER BUG (Leptocoris trivittatus) - RHODE ISLAND - Causing complaints in Woonsocket and Lincoln, Providence County.(Veilleux). DELAWARE - Large numbers entered homes in several areas of New Castle County past 2-3 weeks. (Burbutis). VIRGINIA - Creating nuisance in Appomattox County. (Isakson, Lacks). NORTH CAROLINA - Nuisance in Stokes County. (Brandon, Scott). OHIO - Entering homes and other buildings in Franklin, Greene and Pike Counties. (Wollerman, McFerren, Delaplane. Oct. 22). UTAH - Entering homes at Logan, Cache County. (Knowlton).

PHARAOH ANT (Monomorium pharaonis) - DELAWARE - Invaded several homes in New Castle County. (Bray).

ORIENTAL COCKROACH (Blatta orientalis) - OKLAHOMA - Entering homes in Oklahoma County from outside infestations. (Okla. Coop. Sur.).

HOUSE FLY (Musca domestica) - WYOMING - Numerous in homes, barns and other buildings in Washakie County. (Lowry).

MILLIPEDS - RHODE ISLAND - Numerous complaints of very heavy house infestations, mainly from shore areas of Narragansett and South Kingstown, Washington County. (Mathewson, Veilleux). OHIO - Favorable conditions resulted in large numbers in Franklin, Marion and Stark Counties; complaints numerous. (Delaplane, Polivka). MICHIGAN - Numerous adults entered house near South Lyon, Oakland County; apparently attracted to lights at night. (Newman). NORTH DAKOTA - Continues problem around homes in southeast section. (Frye).

A TERMITE (Reticulitermes virginicus) - OKLAHOMA - Reproductive forms continue swarming in some areas, including Oklahoma, Payne and Tulsa Counties. (Okla. Coop. Sur.).

STORED-PRODUCT INSECTS

KHAPRA BEETLE (Trogoderma granarium) - MEXICO - Survey conducted in States of Baja California, Sinaloa, Tamaulipas, Veracruz and Nuevo Leon during September; 66 properties, including ships, inspected; 91 specimen collections submitted for determination. No positive identifications received during month. (PPC Mex. Reg.).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - OKLAHOMA - Heavy in stored pecan meats in Payne County. (Okla. Coop. Sur.).

INDIAN-MEAL MOTH (Plodia interpunctella) - OKLAHOMA - Heavy in stored pecan meats in Payne County. Infestations also reported in several home kitchens in Oklahoma County. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

LADY BEETLES - NEW MEXICO - Ranged 12-17 adults per 25 sweeps in alfalfa near Roswell, Chaves County. (Mathews). Lighter populations found in alfalfa in Valencia County. (Heninger).

DAMSEL BUGS - NEW MEXICO - Adults averaged 2-3 per 25 sweeps in alfalfa near Belen, Valencia County. (Heninger). OHIO - Nabis ferus practically only predator remaining on alfalfa in central and eastern areas. Averaged 6 per 25 sweeps on alfalfa in Delaware and Coshocton Counties. (Rose).

A EULOPHID (Sympiesis viridula) - NORTH DAKOTA - Preliminary observations of parasites and diseases of Ostrinia nubilalis (European corn borer) showed 2 percent of 200 larvae from southeast section parasitized by S. viridula and about 1 percent infected by Beauveria bassiana (a fungus disease). O. nubilalis larvae from 5 widely separated locations were 50-100 percent parasitized by an unidentified nematode and 0-75 percent infected by Perezia pyraustae (a protozoan). (Frye).

AN ICHNEUMONID (Bathyplectes curculionis) - WYOMING - Pupae numerous in alfalfa seed harvested near Worland, Washakie County. (Marks).

HONEY BEE (Apis mellifera) - OHIO - Estimated honey crop in State 10,960,000 pounds; 31 percent below 15,789,000 pounds in 1964. Number of colonies decreased 1 percent. Yield per colony estimated at 40 pounds, 17 pounds below 1964 record but only 1 pound below 1959-1963 average. Lower yield attributed to dry weather from May through late July. (Kenney, Kendall, Oct. 12).

MISCELLANEOUS INSECTS

JAPANESE BEETLE (Popillia japonica) - CALIFORNIA - Total of 40,000 trap inspections and 45,000 visual inspections made during season which closed end of August. All survey and detection results now negative for 3 years and infestation assumed eradicated. (Cal. Coop. Rpt.).

A WEEVIL (Brachyrhinus rugosostriatus) - ARIZONA - Collected for first time in State October 19 at Cornville, Yavapai County. Adults found on side of house. (Ariz. Coop. Sur.).

GREATER WAX MOTH (Galleria mellonella) - ALABAMA - Larvae and pupae heavy in beehive in Morgan County. (McQueen).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - ALABAMA - Heavy and widespread throughout Geneva County. Extreme increase in number of mounds in Auburn caused numerous complaints. Infestations appear more general throughout affected part of State than last year. (McQueen).

TUMID SPIDER MITE (Tetranychus tumidus) - FLORIDA - Adults generally infesting and severely damaging leaves of water-hyacinth at Gainesville, Alachua County. (Woodruff, Oct. 11).

CORRECTIONS

CEIR 15(16): 365 - BLACK VINE WEEVIL (Brachyrhinus sulcatus) - Lines 9 and 10 should read "recorded for the first time in Jefferson County, Wisconsin. This pest was previously collected in Milwaukee, Milwaukee County, in 1963."

CEIR 15(44): 1235 - BEAN BUTTERFLY (Lampedes boeticus (L.)) should read (Lampides boeticus (L.)).

CEIR 15(44): 1235 - A CECIDOMYIID MIDGE (part of scientific name obliterated) should read "A CECIDOMYIID MIDGE (Plemeliella abietina Seitner) ... ."

ADDITIONAL NOTES

MINNESOTA - Limited GRASSHOPPER egg survey conducted; only 7 percent of fields checked contained egg numbers as high as adult populations indicated. Cool, wet weather during egg laying period apparently responsible for low numbers of eggs being deposited. This indicates 1966 grasshopper populations will be somewhat lower in many areas than in 1965. (Minn. Ins. Rpt.).

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chortzagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
BL = blacklight I = incandescent MV = mercury vapor O = other																								
FLORIDA																								
Gainesville 10/28			BL	5					2								1			3		3		
GEORGIA																								
Tifton 10/21-27	38-76	0	BL							1	23							0	0					
MISSISSIPPI																								
Stoneville 10/22-28	31-76	0	2BL	30					90		72					2	21			49	71	85	1	
SOUTH CAROLINA																								
Charleston 10/25-31	38-77	0.10	BL	4			0		4	0	14					0	0			10		7	0	
TENNESSEE (Counties)																								
Madison 10/19-25				19							72						2			31				
Maury 10/19-25				16					6		35									23				
Robertson 10/19-25											56									19				
Cumberland 10/19-25				16							76									8		8		
Knox 10/19-25				9					13		12									19		3		
Johnson 10/19-25				13					21		72					12	2			39		4		
TEXAS																								
Waco 10/23-29			BL	0			1		8	3	8					0	0			2	7	4	8	
WISCONSIN																								
Madison 10/22-27			BL	14							8					18				3				
Middleton 10/22-27			BL	1							2					2				7				

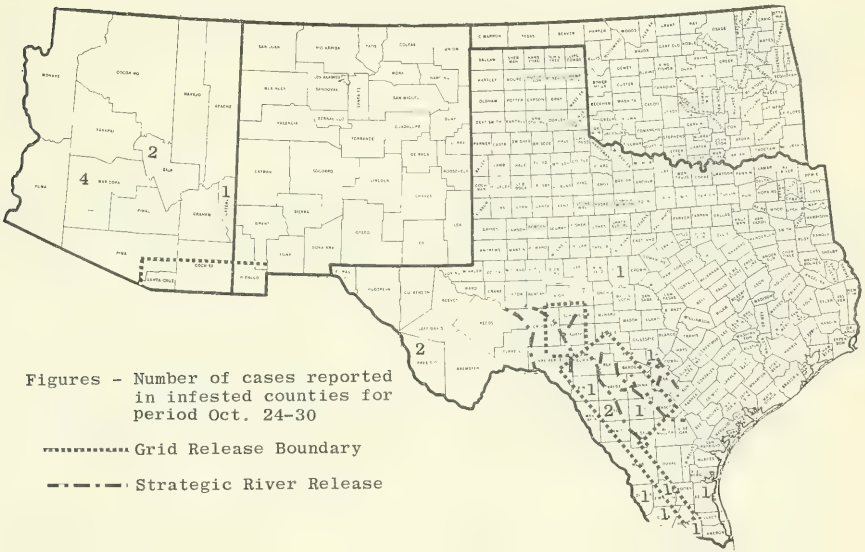
STATUS OF THE SCREW-WORM (Cochlimoyia hominivorax) IN THE SOUTHWEST

During the period October 24-30 a total of 20 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Presidio and Zavala 2 each, Frio, Kendall, Kinney, Zapata, Hidalgo, Starr, Jim Hogg, Coleman and Kenedy 1 each; ARIZONA - Gila 2, Maricopa 4 and Greenlee 1. The Republic of Mexico reported 245 cases: Sonora 48, Nuevo Leon 5, Chihuahua 85, Tamaulipas 19, Coahuila 26 and Territorio sur de Baja California 62. Sterile screw-worm flies released: Texas 18,836,250, New Mexico 4,400,000, Arizona 12,454,000, California 280,000 and Mexico 72,244,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	369	5525	299	6277	123.41	88.01
1964	13	164	173	5268	7.51	3.11
1965	20	858	70	4232	28.57	20.27
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	276	3562	46	1711	600.00	208.18
1965	260	4821	40	1955	650.00	246.59

Feasibility Survey - During this period 169 cases were identified in Mexico south of the Barrier Zone, as follows: San Luis Potosi 24, Jalisco 13, Nayarit 6, Sinaloa 10, Durango 67, Guerrero 8, Puebla 2, Chiapas 6, Veracruz 13, Michoacan 4, Morelos 7, Zacatecas 2, Tabasco 2, Queretaro 1, Hidalgo 2, Oaxaca 2, Colima 0.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Oklahoma (State or District) DURING 1964 (Year)

ATTACKING Wheat (Commodity or Crop)

A. Pest or pest complex: Greenbug, other aphids, mites, armyworms, cutworms, grasshoppers

B. Number of acres[a] produced (From CRS) No. 4,201,000

C. Average yield per acre[a] (From CRS) Units/ 23 bu.

D. Price[b] per unit (bu.)[c] (From CRS) $/ 1.50

E. Acres[a] needing control No. 826,337

F. Acres[a] treated No. 98,417

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 12

I. Loss in yield, units per acre[a], C x H Units/ 2.76 bu.

J. Loss in yield, $ per acre[a], D x I $/ 4.14

K. Loss in quality, $ per ----[a] $/ ----

L. Yield loss for all acres[a], (E-F) x I Units 2,009,059 bu.

M. Control cost, $ per acre[a], $/ 2.11

N. Control cost for all acres[a], F x M $ 207,679.87

O. Yield loss for all acres[a], (E-F) x J $ 3,013,588.80

P. Quality loss for all -----[a], (E-F) x K $ -----

Q. Combined control cost and losses, N + O + P $ 3,221,268.67

R. Percent loss due to each insect in the complex: See comment

Comment: Greenbug 47, other aphids 7, mites 17, armyworms 9, cutworms 7, grasshoppers 2, others 11.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Don C. Arnold

Date August 27, 1965

ATTACKING Grain sorghum (Commodity or Crop)

A. Pest or pest complex: Corn earworm, sorghum midge, corn leaf aphid, sorghum webworm, chinch bug, grasshoppers

B. Number of acres[a] produced (From CRS) No. grain 577,000; forage 353,000

C. Average yield per acre[a] (From CRS) Units/ grain 25.5 bu.; forage 1.5 tons

D. Price[b] per unit (bu./ton)[c] (From CRS) $/ grain 1.09; forage 18.50

E. Acres[a] needing control No. grain 154,232; forage 94,357

F. Acres[a] treated No. grain 18,645; forage 11,039

G. Reduction due to not treating where needed:

H. Loss in yield, percent % grain 13; forage 35

I. Loss in yield, units per acre[a], C x H Units/ grain 3.32 bu.; forage 0.525 tons

J. Loss in yield, $ per acre[a], D x I $/ grain 3.62; forage 9.71

K. Loss in quality, $ per ----[a] $/ -----

L. Yield loss for all acres[a], (E-F) x I Units grain 452,141 bu.; forage 43,742 tons

M. Control cost, $ per acre[a], $/ 3.10

N. Control cost for all acres[a], F x M $ grain 55,939.50; forage 34,220.90

O. Yield loss for all acres[a], (E-F) x J $ grain 492,996.94; forage 809,017.78

P. Quality loss for all -----[a], (E-F) x K $ -----

Q. Combined control cost and losses, N + O + P $ grain 548,936.44; forage 843,238.68; total 1,392,175.12

R. Percent loss due to each insect in the complex: * See comment for percent loss

Comment: Corn earworm 39, sorghum midge 15, corn leaf aphid 12, sorghum webworm 11, chinch bug 8, grasshoppers 5, others 10.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Don C. Arnold

Date August 27, 1965

STATE OF CALIFORNIA
DEPARTMENT OF AGRICULTURE
1220 N STREET
SACRAMENTO, CALIFORNIA

C O P Y E-82-7

TO: All County Agricultural Commissioners

SUBJECT: Estimated Damage and Crop Loss Caused by Insect/Mite Pests - 1964

Collective reports of estimated damage and dollar crop losses attributed to insect/mite pests are here summarized by the Bureau of Entomology. Most of the items included are from special reports by County Agricultural Commissioners. Other available information is also incorporated. Collection of this information, by each county, involves a great deal of work, and yet this data must of necessity be considered an estimate only. The majority of the county reports were fully complete, giving estimated crop value, percentage loss caused by insects and treatment costs on many of the 250 different kinds of commercial crops grown in the State. Many of these crops are specialty crops. There are approximately 131,000 farm enterprises in California. California has an area of 100,000,000 acres - 62,000,000 are non-tillable and 38,000,000 are tillable. Some 7,000,000 acres are under irrigation. Acreages treated for Agricultural Pest Control amounted to 12,901,805 acres in 1964. This was 383,949 acres less than in 1963.

Repeat treatment applications are considered as separate applications and increase the total. Aircraft applications exceeded the 1963 figures by 3,295 acres for spray and dropped 300,636 acres for dust applications. Ground applicators treated 81,502 more acres with spray and 39,287 acres with dust in 1964. Aircraft application accounted for 78.1 percent and ground application for 21.9 percent of the pest control work done by commercial applicators.

Field crops accounted for 5,085,210 acres treated, vegetables 1,574,145 and fruits and other crops 1,698,355. There are 58 mosquito abatement districts which cover 35,000 square miles in California. Their annual expenditures approximate $6,500,000.

Some 1,388 licenses were issued for Agricultural pest control operators and certificates were issued to 481 pilots and apprentice certificates to 227 pilots.

Tallying of related pests, comprising more than one species as a group, is more prevalent than in the past. However, when damage/loss can be properly attributed to a single species it is so credited. For a more accurate representation of state-wide losses, the highest-lowest percentage value is given rather than striking an average.

Estimates for pests of animals continue to be incomplete due to lack of centralized reporting, consequently they represent only a limited number of counties.

Forest pests are included through cooperation with the U. S. Forest Service.

Structural pests are included by cooperation with Structural Pest Control operators. Estimated dollar costs for individual structural pests are impossible to completely assess as treatments are usually a combination treatment which include insect pests, wood rots and rodents. An overall value is assigned to structural pest loss.

The attached table represents the breakdown of assigned damage/loss dollar value for California.

/s/ Ronald M. Hawthorne

Ronald M. Hawthorne
Economic Entomologist

Robert W. Harper, Chief
Bureau of Entomology

CROP LOSS ESTIMATE REPORT FOR CALIFORNIA - 1964

Insects	Assessable Yield Loss ($)	Control Costs ($)	% Loss of Crop Value	Estimated Overall Loss ($)
Alfalfa caterpillar (Colias eurytheme)	900,000	480,000	6	1,380,000
Aphids				
Aphids - nonspecific	10,312,450	7,771,250	.001-4	18,083,700
Apple aphid (Aphis pomi)	500	1,000	0-2	1,500
Cabbage aphid (Brevicoryne brassicae)	481,290	280,550	1-7.3	761,840
Green peach aphid (Myzus persicae)	2,363,541	1,768,110	1-2.7	4,131,651
Mealy plum aphid (Hyalopterus pruni)	8,000	12,000	0-1	20,000
Melon aphid (Aphis gossypii)	464,000	71,000	1-2.5	535,000
Rosy apple aphid (Anuraphis rosea)	30,000	190,000	0-.25	220,000
Spotted alfalfa aphid (Therioaphis maculata)	298,700	286,763	.3-2.25	585,463
Strawberry aphid (Chaetosiphon fragaefolii*)	90,000	20,000	0-1	110,000
Walnut aphid (Chromaphis juglandicola)	441,040	242,852	.5-7.2	683,892
Aphids - Total	14,489,521	10,643,525		25,133,046
Armyworms				
Armyworm (Pseudaletia unipuncta)	2,345,724	927,998	.02-2.7	3,273,722
Beet armyworm (Spodoptera exigua)	26,500	419,000	0-1	445,500
Armyworms - Total	2,372,224	1,346,998		3,719,222
Artichoke plume moth (Platyptilia carduidactyla)	461,800	547,600	5-33	1,009,400
Asparagus beetle (Crioceris asparagi)	19,000	5,000	0-3	24,000
Codling moth (Carpocapsa pomonella)	764,717	1,643,956	.1-9.2	2,408,673
Corn earworm (Heliothis zea)	22,213,669	13,711,584	.1-14	35,925,253
Cotton leaf perforator (Bucculatrix thurberiella)	67,668	158,141	0-3	225,809
Cucumber beetles (Diabrotica spp.)	89,480	3,000	0-3	92,480
Cutworms (nonspecific)	2,706,467	1,591,250	.1-5.5	4,297,717
Darkling beetles (Metaponium spp., Blapstinus spp.)	45,812	12,000	0-1.3	57,812
Elm leaf beetle (Galerucella xanthomelaena)	1,000	17,500	0-5	18,500
Field crickets (Gryllus spp.)	2,900,000	800,000	0-3	3,700,000

* Hille Ris Lambers, D. 1953. Temminckia 9:52,65

Insects	Assessable Yield Loss ($)	Control Costs ($)	% Loss of Crop Value	Estimated Overall Loss ($)
Flea Beetles				
Striped flea beetle (Phyllotreta striolata)	1,600,000	750,000	0-4	2,350,000
Tobacco flea beetle (Epitrix hirtipennis)	429,760	227,000	.1-2	656,760
Flea Beetle - Total	2,029,760	977,000		3,006,760
Fruit-tree leaf roller (Archips argyrospilus)	57,946	25,112	.1-.3	83,058
A Geranium plume moth (Platyptilia pica monticola)	25,000	10,000	0-2.2	35,000
Grasshoppers	147,090	34,260	1-3	181,350
Grass bugs (Liorhyssus spp.)		18,000	0-1	18,000
Leafhoppers				
Beet leafhopper (Circulifer tenellus)	435,000	198,000	.41-22.4	633,000
Grape leafhoppers(Erythroneura spp.)	1,078,439	1,362,491	.2-6.7	2,440,930
Leafhoppers (nonspecific)	6,463,295	5,418,790	.053-7	11,882,085
Leafhoppers - Total	7,976,734	6,979,281		14,956,015
Leafminer flies (Agromyza spp., Phytomyza spp.)				
Leaf miners (nonspecific)	711,000	599,980	.018-1	1,310,980
A rice leaf miner (Hydrellia griseola)	139,000	65,000	.5-1	204,000
Leaf miner flies - Total	850,000	664,980		1,514,980
Loopers				
Cabbage looper (Trichoplusia ni)	5,436,055	3,625,227	.01-7	9,061,282
Omnivorous looper (Sabulodes caberata)	12,110	3,100	0-3	15,210
Loopers - Total	5,448,165	3,628,327		9,076,492
Lygus bugs (Lygus spp.)	14,863,810	8,131,363	.2-15	22,995,173
Mealybugs				
Citrus mealybug (Pseudococcus citri)	297,500	115,000	0-.5	412,500
Mealybugs (nonspecific)	16,550	15,850	.05-.08	32,400
Mealybugs - Total	314,050	130,850		444,900
Mites				
Citrus red mite (Panonychus citri)	5,368,759	5,204,355	.6-9.3	10,573,114
Citrus rust mite (Phyllocoptruta oleivora)	25,000	15,000	0-.3	40,000
Clover mite (Bryobia praetiosa)	514,300	321,000	1.92-7	835,300

Insects	Assessable Yield Loss ($)	Control Costs ($)	% Loss of Crop Value	Estimated Overall Loss ($)
Cyclamen mite (Steneotarsonemus pallidus)	78,000	6,300	0-5	84,300
European red mite (Panonychus ulmi)	1,062,600	1,000,000	.5-4	2,062,600
Mites (nonspecific)	23,270,377	11,230,307	.021-7	34,500,684
Pacific spider mite (Tetranychus pacificus)	110,740	118,000	1-4	228,740
Pear leaf blister mite (Eriophyes pyri)	25,000	39,000	0-1.5	64,000
Tomato russet mite (Aculus lycopersici)	15,000	20,000	0-1	35,000
Two-spotted spider mite (Tetranychus telarius)	2,493,815	1,554,575	.083-5	4,048,390
A spider mite (Eotetranychus willamettei)	73,100	52,500	1.22-2.5	125,600
Mites - Total	33,036,691	19,561,037		52,597,728
Navel orangeworm (Paramyelois transitella)	175,000	115,500	.47-1	290,500
Orange tortrix (Argyrotaenia citrana)	1,107,390	286,800	.2-7	1,394,190
A leaf roller moth (Platynota stultana)	15,000	5,600	0-.02	20,600
Oriental fruit moth (Grapholitha molesta)	1,012,486	1,335,258	.098-6	2,347,744
Peach twig borer (Anarsia lineatella)	1,829,774	3,075,757	.75-5	4,905,531
Pear psylla (Psylla pyricola)	547,900	419,076	.02-5.8	966,976
Potato tuberworm (Gnorimoschema operculellum)	1,731,981	860,181	1.85-13	2,592,162
Root maggots				
Cabbage maggot (Hylemya brassicae)	591,500	75,300	.5-11	666,800
Seed-corn maggot (Hylemya platura)	22,250	16,900	0-.9	39,150
Root maggots - Total	613,750	92,200		705,950
Scales				
Black scale (Saissetia oleae)	335,600	475,500	.2-5	811,100
California red scale (Aonidiella aurantii)	959,173	1,306,371	.5-3.5	2,265,544
European fruit lecanium (Lecanium corni complex)	10,000	150,000	0-.2	160,000
Greedy scale (Aspidiotus camelliae)	2,500	7,500	0-1	10,000
A latana scale (Aspidiotus lataniae)	30,000		0-2	30,000
Olive scale (Parlatoria oleae)	939,881	715,495	.064-5	1,655,376
Purple scale (Lepidosaphes beckii)	10,000	16,000	0-.1	26,000
San Jose scale (Aspidiotus perniciosus)	2,022,367	1,883,998	.25-10.54	3,906,365
Scales (nonspecific)	1,314,573	1,598,712	1.5-10	2,913,285
Yellow scale (Aonidiella citrina)	420,343	719,226	0-1	1,139,569
Scales - Total	6,044,437	6,872,802		12,917,239

Insects	Assessable Yield Loss ($)	Control Costs ($)	% Loss of Crop Value	Estimated Overall Loss ($)
Stink Bugs				
A stink bug (Euschistus conspersus)	7,000	500	0-15	7,500
Stink bugs (nonspecific)	6,172,470	2,229,325	.01-7	8,401,795
Stink bugs - Total	6,179,470	2,229,825		8,409,295
Salt-marsh caterpillar (Estigmene acrea)	10,250	6,500	0-.5	16,750
Shot-hole borer (Scolytus rugulosus)	911,140	300,000	2-5	1,211,140
Storage insects	150,000	35,000	.5-1	185,000
Tent caterpillars (Malacosoma spp.)	5,640	20,200	.1-1	25,840
Tobacco hornworm (Protoparce sexta)	82,992	17,100	0-2	100,092
Tomato pinworm (Keiferia lycopersicella)	184,000	340,000	.3-.85	524,000
Thrips				
Citrus thrips (Scirtothrips citri)	2,358,607	1,126,990	.8-5	3,485,597
Onion thrips (Thrips tabaci)	10,601	20,000	1.6-2.2	30,601
Pear thrips (Taeniothrips inconsequens)	5,000	100,000	0-.05	105,000
Thrips (nonspecific)	10,752,029	3,298,148	.019-9.67	14,050,177
Western flower thrips (Frankliniella occidentalis)	86,725	23,127	.14-.5	109,852
Thrips - Total	13,212,962	4,568,265		17,781,227
Vinegar flies (Drosophila spp.)	50,000	20,000	0-2	70,000
Walnut husk fly (Rhagoletis completa)	423,800	499,000	.016-11	922,800
Weevils				
Alfalfa weevil (Hypera postica)	262,000	97,100	2-5	359,100
A weevil (Hypera brunneipennis)	958,140	508,500	3-6	1,466,640
Pepper weevil (Anthonomus eugenii)	4,000	20,000	0-1.2	24,000
Weevils - Total	1,697,940	1,144,600		2,842,540
Western grape leaf skeletonizer (Harrisina brillians)	8,320	8,000	0-4	16,320
Western peach tree borer (Sanninoidea exitiosa graefi)	65,519	21,000	0-1.9	86,519
Whiteflies (nonspecific)	55,400	23,400	0-5	78,800
Wireworms	10,726	20,912	.1-.9	31,638

Insects	Assessable Yield Loss ($)	Control Costs ($)	% Loss of Crop Value	Estimated Overall Loss ($)
Garden symphylan (Scutigerella immaculata)	15,800	5,000	0-2	20,800
A tadpole shrimp (Triops longicaudatus)	350,000	208,000	.5-1	558,000
Brown garden snail (Helix aspersa)	16,500	15,000	0-.1	31,500
Agricultural Pests - Total	147,814,981	93,146,740		240,961,721
Pests of Animals				
Common cattle grub (Hypoderma lineatum)	373,782	15,250	.05-10	389,032
Horn fly (Haematobia irritans)	82,564	10,650	.4-2	93,214
House fly (Musca domestica)	10,000	20,000	0-.05	30,000
Lice (Haematopinus spp., Bovicola spp., Trichodectes spp., Linognathus spp.)	158,684	10,850	0-2	169,534
Northern fowl mite (Ornithonyssus sylviarum)	560,000	4,000	0-.2	564,000
Mosquitoes	110,000	2,000	0-2	112,000
Ticks (Ixodes spp., Dermacentor spp., Otobius spp.)	64,250	40,450	.01-2	104,700
Pests of Animals - Total	1,359,280	103,200		1,462,480
Agricultural & Animal Pests - Total	149,174,261	93,249,940		242,379,201

ESTIMATED LOSS OF TIMBER INFESTED BY FOREST INSECTS IN STATE OF CALIFORNIA

Insects	Volume Infested M-MBF*	% Value Lost of Total Stand	Value of Stumpage Infested
Mountain pine beetle (Dendroctonus ponderosae)			
as D. monticolae**	223	0.33	$3,500,000
as D. jeffreyi**	51	0.44	866,000
Douglas-fir beetle (Dendroctonus brevicomis)	255	0.26	4,312,000
Western pine beetle (Dendroctonus pseudotsugae)	219	0.47	3,720,000
Fir engraver (Scolytus ventralis)	678	0.90	2,710,000
Flatheaded fir borer (Melanophila drummondi)	22	0.02	301,000

* M-MBF means "Million board feet" Calendar Year 1964.
** Wood, S. L. 1963. Great Basin Nat. 23 (1/2): 1-117.

Insects	Volume Infested M-MBF	% Value Lost of Total Stand	Value of Stumpage Infested
Douglas-fir tussock moth (Hemerocampa pseudotsugata)	78	0.01	312,000
California flatheaded borer (Melanophila californica)	12	0.02	204,000
California five-spined ips (Ips confusus)	5	0.10	85,000
Pine engraver (Ips pini (=oregonis))*	Minor	-	Minor
Total by Insect Species	1,543		$16,010,000

* Hopping, G. R. 1964. Canad. Ent. 96(7): 974-976.

STRUCTURAL PEST CONTROL

Structural pests are those referred to as household pests and wood destroying pests, or organisms, or such other pests as may include those which infest households or other structures including railroad cars, ships, docks and airplanes, or the contents thereof.

Due to the fact that geographical and climatic conditions vary over the entire State, pest problems differ enormously in various areas. In past years, from an economic standpoint, termites have been considered the most important structural pests. More accurate data are obtainable on this insect due to the fact that a copy of every termite inspection report must be filed with the State Structural Pest Control Board. However, while no official reports are made on roach infestations, information gathered from operators shows that many more thousands of dollars are spent on the eradication of roaches than on termites. Inasmuch as no accurate accounting can be made of this condition, termites must remain the top RECORDED structural pest problem.

During 1964, there were 327,308 termite inspecton reports registered with the State of California, an increase over last year of 18,367 reports. Of these, 82,165 disclosed no infestation of any wood destroying pest or organisms. Of the remainder, the following infestations were reported: 133,448 infestations of subterranean termites; 105,943 incidents of kalotermitid (drywood termites);4,797 reports of fungus and dry rot; 6,449 infestations of beetle and other wood destroying insects; and 1,301 infestations of dampwood termites.

In spite of fire and flood damage, the ten most important pests, economically, remained about the same, with roaches again taking precedence over any other. These then were the pests that gave the homeowner, restaurant owner, industrialist and food processing plant owner the most trouble in 1964, listed in order of their importance:

COCKROACHES

Oriental cockroach
(Blatta orientalis)

German cockroach
(Blattella germanica)

Brown-banded cockroach
(Supella supellectilium)

American cockroach (Periplaneta americana)
and other species

Surinam cockroach
(Pycnoscelus surinamensis)
(first appeared in 1964)

TERMITES

Subterranean termites
(Reticulitermes spp.)

Drywood termites
(Kalotermitidae)

Structual pest control (Cont.)

Beetle & other wood destroying pests and organisms

A dampwood termite
(Zootermopsis angusticollis)

ANTS

Odorous house ant
(Tapinoma sessile)

Argentine ant
(Iridomyrmex humilis)

Southern fire ant
(Solenopsis xyloni)

Pavement ant, carpenter ants, thief ant, Pharaoh ant, harvester ants.

BEES AND WASPS

Honey bee
(Apis mellifera)

A carpenter bee
(Xylocopa tabaniformis orpifex)

Wasps
(Polistes spp.)

FLEAS AND BROWN DOG TICK

Cat flea
(Ctenocephalides felis)

Dog flea
(Ctenocephalides canis)

Brown dog tick
(Rhipicephalus sanguineus)

SPIDERS

Black widow spider
(Latrodectus mactans)

Wolf and garden spiders

STORAGE PESTS

Granary weevil
(Sitophilus granarius)

Drugstore beetle
(Stegobium paniceum)

Saw-tooth grain beetle
(Oryzaephilus surinamensis)

Indian-meal moth
(Plodia interpunctella)

Mediterranean flour moth
(Anagasta kuehinella)

EARWIGS AND CRICKETS

CARPET BEETLES, CLOTHES MOTHS, SILVERFISH, CLOVER MITES AND FUNGUS GNATS

Structural Pests - Total $100,000,000.00
(Including loss by individuals due to damage to food, fiber and materials discarded.)

UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF AGRICULTURE

VOL. 15 No. 46 November 12, 1965

Todd

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

All correspondence pertaining to additions, deletions and changes of addresses for the mailing list for this report should be sent to:

Service Operations Division
Office of Plant and Operations
United States Department of Agriculture
Washington, D. C. 20250

Reports and inquiries pertaining to this release should be mailed to:

Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

Volume 15 November 12, 1965 Number 46

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

PEA APHID and SPOTTED ALFALFA APHID counts rather high in alfalfa in Illinois. Weather remains favorable for GRASSHOPPER egg deposition in some areas. (p. 1263). WOOLLY APPLE APHID caused extreme damage to roots of apple trees in orchards in Alabama. (p. 1264). CITRUS RUST MITE infestations on Florida citrus much above average and in high range; increase expected in most districts in November. Two new infestations of citrus rust mite found on citrus in Arizona. (p. 1265).

PINK BOLLWORM male moths continue to be trapped in California; collected in new areas of Yuma County, Arizona. Late buildup of pink bollworm indicated in southern Dona Ana County, New Mexico, and infestations widespread in Reeves and Pecos Counties, Texas. (p. 1266).

CELERY LEAF TIER continues to spread in Yuma County, Arizona. (p. 1266).

DETECTION

New state records reported were a MUSCID FLY (*Coenosopsia prima*) in Florida (p. 1264) and a MARGARODID SCALE (*Xylococculus betulae*) in Virginia. (p. 1268).

New county records reported include: A FRUIT FLY (*Anastrepha suspensa*) in Martin County, Florida, (p. 1265); ELM LEAF BEETLE (*Galerucella xanthomelaena*) in Brown, Atchison, Jefferson, Jackson, Pottawatomie, Geary, Wabaunsee, Morris and Douglas Counties, Kansas,(p. 1267); TOBACCO MOTH (*Ephestia cautella*) in Jones and Chickasaw Counties, Iowa, (p. 1269).

CORRECTIONS

See page 1269.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1271).

Estimated Losses and Production Costs Attributed to Insects and Related Arthropods Attacking Beef and Dairy Cattle in Oklahoma in 1964. (p. 1272).

Reports in this issue are for the week ending November 5 unless otherwise indicated.

WEATHER OF THE WEEK ENDING NOVEMBER 8

HIGHLIGHTS: (1) Another sunny week. Warm in most areas. (2) Mostly dry except for the Northwest coast. Heavy showers in east Texas; few scattered showers elsewhere.

TEMPERATURE: Unseasonably mild weather prevailed over almost the entire Country last week. Weekly average temperatures were above normal from the Pacific Ocean to the Appalachians and as much as 8° to 10° above normal from the Idaho area to the central Mississippi River Valley. Below normal temperatures were mostly confined to the New England area. In the Northwest, this was the second consecutive warm week. On Tuesday afternoon, temperatures over the northern and central Great Plains climbed into the 70's with a 74° high at Bismarck, North Dakota, and 82° at Valentine, Nebraska.

PRECIPITATION: Rain fell on several days along the Pacific Northwest coast as the rainy season was resumed in that area. Unstable air brought moderate to heavy rain to east Texas at midweek. Flooding conditions occurred in the Lavaca and Navidad Rivers and Hallettsville, Texas, reported more than 8 inches of rain. Elsewhere only scattered, mostly light showers occurred and mostly over the Great Lakes, New England, and in parts of Florida. For much of the Great Plains, the intermountain area, and the Southwest, this was the second or third dry week. The central and western Corn Belt has been dry for at least two weeks. In the northeast drought area, weekly rainfall was generally less than 0.1 inch as the drought worsened slightly. Snowfall of 2-3 inches occurred in northeastern Minnesota over last weekend. Snow elsewhere was confined mostly to a few mountain locations in the Northeast.

FREEZING: Freezing temperature came to the central Carolinas for the third consecutive week. There was no significant southward advance of the freeze line. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

PEA APHID (Acyrthosiphon pisum) - WISCONSIN - Populations fluctuate considerably; generally low in southeast. Some decrease noted since last week; due primarily to high incidence of parasitism and/or disease. Nabis ferus (a damsel bug) principal predator in most fields although various lady beetles present in many heavily infested fields. (Wis. Ins. Sur.). ILLINOIS - Ranged 300-16,000 (average 5,100) per 100 sweeps in southeast area alfalfa. (Ill. Ins. Rpt.). NEBRASKA - Light in alfalfa in Gage County. (Rhine). OKLAHOMA - Ranged 2-4 per 10 sweeps in alfalfa in Jackson and Kiowa Counties. (Okla. Coop. Sur.). ARKANSAS - Remains low in northwest. (Ark. Ins. Sur.). NEW MEXICO - Light in alfalfa throughout State. (N. M. Coop. Rpt.). VIRGINIA - Adults and nymphs averaged 20 per sweep in alfalfa in Floyd County field. Light in other fields in Floyd and Montgomery Counties. (Isakson).

SPOTTED ALFALFA APHID (Therioaphis maculata) - VIRGINIA - Ranged 10-30 per 10 sweeps in alfalfa in Floyd and Montgomery Counties. (Isakson). WISCONSIN - Apparently increased in some locations; seldom exceeded 2 per sweep along field margins in heavily infested areas. Males not found. (Wis. Ins. Sur.). ILLINOIS - Active in alfalfa in southeast; 5-3,400 (average 1,251) per 100 sweeps. (Ill. Ins. Rpt.). NEBRASKA - Averaged 25 per sweep in Saunders and Butler Counties; 50 percent oviparous females. (Schalk, Stevens). ARKANSAS - Surveys continue negative in northwest. (Ark. Ins. Sur.). ARIZONA - Some decrease in alfalfa in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Decrease continues in alfalfa in Yuma, Pinal and Maricopa Counties. Nymphs light to moderate in Yuma County. (Ariz. Coop. Sur.).

POTATO LEAFHOPPER (Empoasca fabae) - WISCONSIN - Nymphs continue light in scattered alfalfa fields. (Wis. Ins. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - ILLINOIS - Adults abundant with few nymphs observed in southeast area alfalfa. (Ill. Ins. Rpt.). ARKANSAS - Decreased in alfalfa in northwest. (Ark. Ins. Sur.).

ALFALFA WEEVIL (Hypera postica) - VIRGINIA - Larvae ranged 10-20 and adults 0-2 per 10 sweeps in Floyd County. Averaged 10 adults and 3 larvae per 20 sweeps in Montgomery County field. (Isakson). ILLINOIS - Adults active in southeastern area alfalfa; 0-6 (average 2.25) per 100 sweeps. (Ill. Ins. Rpt.)

ALFALFA CATERPILLAR (Colias eurytheme) - OKLAHOMA - Averaged 8 per 10 sweeps in Tillman County alfalfa. Very light to absent in other southwest counties. (Okla. Coop. Sur.).

A SPRINGTAIL (Sminthurus sp.) - OKLAHOMA - Heavy, 200-300 per 10 sweeps, in alfalfa in Tillman County. (Okla. Coop. Sur.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - MARYLAND - Damage heavy on 4 acres of late soybeans near Naylor, Prince Georges County. (U. Md., Ent. Dept.).

GRASSHOPPERS - IDAHO - Several species observed on gravelly rangeland east and west of Shoshone, Lincoln County, in mid-October; Melanoplus sanguinipes, M. packardii, Oedaleonotus enigma and various Oedipodinae noted. Although average less than one per square yard, adults still active; females examined contained fairly large numbers of eggs. Weather throughout October remained favorable for egg deposition. (PPC). NEBRASKA - M. femurrubrum light in field margins in Lancaster and Gage Counties. (Rhine). SOUTH DAKOTA - Spot checks for eggs made in 13 south central and southeastern counties. Eggs quite numerous in most fields; ranged light to severe. Averaged 7 egg pods per square foot in soil bank field in Beadle County. (Burge, Zimmerman). Grasshoppers, including M. femurrubrum and M. bivittatus, 3-6 per square yard in alfalfa east of Spearfish; temperature in high 70's. (Jones). WISCONSIN - M. differentialis mating. (Wis. Ins. Sur.).

A CRICKET (Nemobius fasciatus) - ALABAMA - Heavy in fescue and other pasture grasses in Randolph County; destroyed considerable number of seedling clover plants; reduced winter clover stands. (Barwood, Brackeen).

EUROPEAN CORN BORER (Ostrinia nubilalis) - SOUTH DAKOTA - In areas of fields surveyed in Clark, Codington, Grant, and Spink Counties, larvae low or nonexistent; 2 fields in Grant County with 132 and 220 borers per 100 stalks respectively. (Jones).

CORN EARWORM (Heliothis zea) - WISCONSIN - Larvae numerous in late field corn in southeast; all larvae dead in severely frosted fields. (Wis. Ins. Sur.).

FALL ARMYWORM (Spodoptera frugiperda) - OKLAHOMA - Ranged 8-10 per square foot in Bryan County wheat. (Okla. Coop. Sur.). TEXAS - Caused light local damage to scattered pastures and small grains in eastern area. (Meisch).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Light in young barley in Dona Ana County. (Campbell, Harrison). OKLAHOMA - Generally light in planted wheat, light to moderate in volunteer wheat, and moderate in Johnson grass along wheat margins in southwest area. (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - OKLAHOMA - First of season in wheat in Hollis area, Harmon County. (Okla. Coop. Sur.).

Grain Aphids in South Dakota - Rhopalosiphum maidis, R. padi, R. rufiabdominalis, Macrosiphum avenae, and Forda olivacea collected from winter grains this fall. Acyrthosiphon pisum alates taken on winter wheat at Centerville research farm, Clay County. Some species present on volunteer cereals at various locations. R. padi and F. olivacea abundant on subterranean parts of volunteer rye at Highmore, Hyde County. R. padi and R. rufiabdominalis increased on subterranean parts of volunteer grain in several locations in Clay County. (Kieckhefer).

WHITE GRUBS (Phyllophaga spp.) - TEXAS - Locally heavy and damaging small grains in Wilbarger County. (Judd).

GARDEN SYMPHYLAN (Scutigerella immaculata) - OHIO - Abundant and feeding on Johnson grass in Scioto County. Economic on corn in several locations in county past season. Det. by R. E. Crabill. (Blair, Oct. 26).

A TERMITE (Gnathamitermes tubiformans) - OKLAHOMA - Moderate to heavy on grass and dead weeds on roadsides and in pastures in Grandfield area, Tillman County. Det. by D. E. Howell. (Okla. Coop. Sur.).

FRUIT INSECTS

PEACH TREE BORER (Sanninoidea exitiosa) - OKLAHOMA - Heavy in peach trees in Bryan County. (Okla. Coop. Sur.).

WOOLLY APPLE APHID (Eriosoma lanigerum) - ALABAMA - Caused extreme damage to roots of apple trees in some orchards in Clay and other counties. (Bagby, Owens et al.)

ROSY APPLE APHID (Anuraphis rosea) - OHIO - Noted in 2 widely separated orchards, Winged adults ovipositing in Franklin County orchard; nymphs and winged forms observed in Ottawa County orchard. (Holdsworth, Rose).

GREEN PEACH APHID (Myzus persicae) - IDAHO - Winged and wingless adults abundant in peach orchard at Buhl, Twin Falls County. Prolonged mild, favorable weather probably resulted in heavy egg deposition. (Youtz).

A MUSCID FLY (Coenosopsia prima) - FLORIDA - Taken in McPhail trap on grapefruit tree at South Daytona, Volusia County. (Pott, Oct. 26). Det. by G. C. Steyskal. This is new State record. (Fla. Coop. Sur.).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Numbers continue downward trend of recent weeks; 3 adults found on sticky board trap in guava tree at Salerno, Martin County, October 25 by M. L. Messec. This is new county record. (Fla. Coop. Sur.).

Citrus Insect Situation in Florida - End of October - CITRUS RUST MITE (Phyllocoptruta oleivora) infested leaves in 78 percent of groves (norm 69 percent); 61 percent economic (norm 42 percent); and infested fruit in 75 percent of groves (norm 71 percent); 57 percent economic (norm 50 percent). Much above average and in high range. Increase expected in most districts in November. All districts high. CITRUS RED MITE (Panonychus citri) infested 28 percent of groves (norm 40 percent); 3 percent economic (norm 21 percent). Much below average and in low range. Increase expected but few will be important. Highest district west. TEXAS CITRUS MITE (Eutetranychus banksi) infested 23 percent of groves (norm 32 percent); 6 percent economic (norm 11 percent). Near low level normal for October. Will appear in more groves in November but only scattered infestations will be important. All districts low. GLOVER SCALE (Lepidosaphes gloverii) infested 66 percent of groves; 9 percent economic. Above average; slight increase expected; only scattered infestatiors will be important. Highest district south. PURPLE SCALE (Lepidosaphes beckii) infested 63 percent of groves; 4 percent economic. Slightly below average; slight increase expected; all infestations light. Highest district south. CHAFF SCALE (Parlatoria pergandii) infested 54 percent of groves; 6 percent economic. Population below average. Gradual increase to normal moderate level expected. Highest district south. YELLOW SCALE (Aonidiella citrina) infested 54 percent of groves; 13 percent economic. Above normal and will increase slightly. Central district highest with few heavy infestations. WHITEFLIES above normal; adults present in 72 percent of groves; larvae moderate or heavy in 18 percent of groves. Larvae expected to decrease. (W. A. Simanton (Citrus Expt. Sta., Lake Alfred)).

SIX-SPOTTED MITE (Eotetranychus sexmaculatus) - CALIFORNIA - This and Panonychus citri heavy locally on citrus trees in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

CITRUS RUST MITE (Phyllocoptruta oleivora) - ARIZONA - Two new infestations found on citrus in Yuma County. (Ariz. Coop. Sur.).

CITRUS FLAT MITE (Brevipalpus lewisi) - ARIZONA - Damage to citrus fruits continues in Yuma County. (Ariz. Coop. Sur.).

CITROPHILUS MEALYBUG (Pseudococcus fragilis) - CALIFORNIA - Medium locally on citrus in Watsonville, Santa Cruz County. (Cal. Coop. Rpt.).

COTTONY-CUSHION SCALE (Icerya purchasi) - ARIZONA - New infestations appearing in citrus trees in some Yuma County areas. (Ariz. Coop. Sur.).

A DRYWOOD TERMITE (Kalotermes approximatus) - NORTH CAROLINA - Taken from walnut tree in Fayetteville, Cumberland County. Det. by T. E. Snyder. (Wright, July 9).

BLACK PECAN APHID (Melanocallis caryaefoliae) - ALABAMA - Continues numerous on pecan leaves thoughout central and southern sections; no apparent damage or egg laying noted. (McQueen).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Larvae ranged 1-4 per shuck under pecan trees being harvested in Clay, Lee and other counties throughout State. (Bagby et al.). OKLAHOMA - All pecans remaining on trees heavily infested in Payne County. Moderate on pecan and hickory in Mayes County. (Okla. Coop. Sur.).

PECAN LEAFROLL MITE (Aceria caryae) - OKLAHOMA - Scattered and heavy on pecans in Payne County. (Okla. Coop. Sur.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Larvae heavy in walnut husks locally in Fremont, Alameda County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) - ALABAMA - Increasing on cabbage and collards in home and commercial plantings from Jefferson County southward. (McQueen). FLORIDA - Infested 65.5 percent of 200 commercial cabbage plants at Sanford, Seminole County, with light to heavy damage. Light on celery at same location. (Desin). NEW MEXICO - Some light damage in commercial cabbage fields, Dona Ana County. (Campbell, Harrison). ARIZONA - Increase continues; controls necessary on many lettuce fields in Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

IMPORTED CABBAGEWORM (Pieris rapae) - ALABAMA - Increasing on cabbage and collards in home and commercial plantings from Jefferson County southward. (McQueen).

CABBAGE APHID (Brevicoryne brassicae) - ALABAMA - Increasing on cabbage and collards in home and commercial plantings from Jefferson County southward. (McQueen).

CELERY LEAF TIER (Udea rubigalis) - ARIZONA - Spread continues in Yuma County; noted from Dome to Roll railway underpass east of Wellton. (Ariz. Coop. Sur.).

TOMATO FRUITWORM (Heliothis zea) - ARIZONA - Problem on some lettuce fields; heavy in areas of Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

MELON APHID (Aphis gossypii) - ARIZONA - Continues buildup in lettuce; controls required in many areas of Yuma and Maricopa Counties. (Ariz. Coop. Sur.).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - FLORIDA - Moderately damaging sweetpotato at Monticello. (Miller). NEW MEXICO - Field survey negative in Portales Valley. (Kloepfer).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Male moths continue to be trapped in sex-lure and light traps in the Bard and Brawley areas, Imperial County, and Blythe, Riverside County. Modified Frick trap most effective trap; 17 males taken in trap in Bard. Since October 4 through November 2, total of 70 males trapped in State. So far no females or larvae detected by trapping or auxilliary methods of detection. Source of males unknown as no established infestation known to occur in State. Intensive survey continues. (Cal. Coop. Rpt.). ARIZONA - Total of 147 moths trapped in sex-lure traps in Yuma County; new areas include Gadsden and Parker Valley. Additional adults collected in Salome and Cibola. (Ariz. Coop. Sur.). NEW MEXICO - Extensive green boll checks in southern Dona Ana County show late buildup. (Campbell, Harrison). TEXAS - Widespread and heavy in Reeves and Pecos Counties. (Texas Coop. Rpt.).

BOLLWORM (Heliothis zea) - NEW MEXICO - Damage medium in cotton at Portales, Roosevelt County. (Kloepfer).

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Continues heavy in Stonewall County cotton. (Rummel).

COTTON APHID (Aphis gossypii) - NEW MEXICO - Some honeydew on cotton in southern Dona Ana County. (Campbell, Harrison). ARIZONA - Heavy and discoloring lint and damaging small bolls in many areas of Yuma County. (Ariz. Coop. Sur.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Continues medium on cotton in Kerman, Fresno County. (Cal. Coop. Rpt.).

FOREST, ORNAMENTAL, AND SHADE TREE INSECTS

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - OHIO - Adults heavy in block of Scotch pine in Portage County. Mass male emergence flight but no egg laying noted. (Kelly, Oct. 15).

FALL CANKERWORM (Alsophila pometaria) - MINNESOTA - Populations down considerably in north suburban area of Minneapolis-St. Paul. Females almost completely absent. (Minn. Ins. Rpt.). WISCONSIN - Females still emerging in Dane County. (Wis. Ins. Sur.). MICHIGAN - Males taken in Livingston County blacklight trap evenings of October 30 and November 2. (Newman).

LINDEN LOOPER (Erannis tiliaria) - MICHIGAN - Seven adults taken October 30 and 27 taken November 2 in Livingston County blacklight trap. (Newman).

BRUCE SPANWORM (Operophtera bruceata) - MICHIGAN - Five adults taken in blacklight trap in Livingston County evening of November 2. (Newman).

ELM LEAF BEETLE (Galerucella xanthomelaena) - KANSAS - Additional new county records include Brown, Atchison, Jefferson, Jackson and Pottawatomie in northeast and Geary, Wabaunsee, Morris and Douglas in east central. (Guldner).

APHIDS - CALIFORNIA - Drepanaphis acerifolii heavy on maples in Yuba City, Sutter County, and Chaitophorus salicicola medium on willows in Merced County. (Cal. Coop. Rpt.). IDAHO - Periphyllus lyropictus alates and apterae abundant on smaller branches and twigs of maple trees at Moscow, Latah County. (Smith). UTAH - Pterocomma smithiae and Lachnus salignus very numerous on willow bark in Lehi-American Fork area, Utah County. (Knowlton). ARIZONA - Macrosiphoniella sanborni heavy and severely damaging chrysanthemums in Phoenix area, Maricopa County. (Ariz. Coop. Sur.). NEBRASKA - Longistigma caryae noted on pin oaks at 2 locations in Lincoln, Lancaster County. (Roselle). OKLAHOMA - L. salignus heavy on elms in Guymon area, Texas County. (Okla. Coop. Sur.). ALABAMA - Poplar leaves containing galls of Pemphigus populitransversus falling from heavily infested isolated trees in Randolph, Clay, Lee and other counties. (McQueen).

ARMORED SCALES - FLORIDA - Adults of Diaspis carueli moderately to severely damaging leaves of juniper in nursery at Miami, Dade County. (Herrmann, Oct. 28). Chrysomphalus aonidum localized and severely damaging sago palm, Pseudaulacaspis pentagona localized and severely damaging stem of Alamanda hendersonii, and Howardia biclavis severely damaging stem of Tabernaemontana sp. in nursery at Tallavast, Manatee County. (Bickner, Oct. 28). VIRGINIA - Fiorinia theae infesting dogwood in Blacksburg, Montgomery County, and Chionaspis furfura local on pyracantha in Washington County. Det. by S. P. Yang and M. Kosztarab. (Isakson, Barnes, Oct. 22). OHIO - Abgrallaspis townsendi recorded on Euonymus alatus in Lucas County. Det. by M. Kosztarab. (Jones, Walker, Aug. 8).

CALIFORNIA OAKWORM (Phryganidia californica) - CALIFORNIA - Pupae heavy; damage excessive this year. (Cal. Coop. Rpt.).

DOGWOOD TWIG BORER (Oberea tripunctata) - VIRGINIA - Larvae infesting dogwood twigs in Stony Creek, Sussex County. (Isakson, Wright, Oct. 26).

ERIOCOCCID SCALES - CALIFORNIA - Eriococcus araucariae locally heavy on araucaria nursery stock in El Cajon, San Diego County. (Cal. Coop. Rpt.). OKLAHOMA - Kermes bougei heavy on ornamental pin oaks in Payne County. (Okla. Coop. Sur.).

A MEALYBUG (Ferrisia virgata) - CALIFORNIA - Medium on chrysanthemum and light on lantana in Brawley Area. Local on preferred hosts within treatment area. (Cal. Coop. Rpt.).

A MARGARODID SCALE (Xylococculus betulae) - VIRGINIA - Under peeling bark of yellow birch at Mabry Mill, Floyd County. Det. by M. Kosztarab. This is a new State record. (Williams).

A WAX SCALE (Ceroplastes ceriferus) - FLORIDA - Adults severely damaging stem and leaves of Podocarpus nagi in nursery at Apopka, Orange County. (Musgrove, Oct. 21.)

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - ALABAMA - Adults heavy in Willow Creek Country Club area, Tallapoosa County; apparently feeding on azalea leaves and native flowers. (McQueen).

A GERANIUM PLUME MOTH (Platyptilia pica) - CALIFORNIA - Larvae locally heavy on geranium nursery stock in Santa Barbara, Santa Barbara County. (Cal. Coop. Rpt.).

A SPIDER MITE (Eotetranychus frosti) - ARIZONA - Damaging some rose varieties in Yuma area, Yuma County. (Ariz. Coop. Sur.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - OHIO - Collections in incandescent light trap at Wright-Patterson Air Force Base near Dayton included: Culex pipiens quinquefasciatus, Aedes vexans, Anopheles punctipennis, Psorophora confinnis. (Wilson). OKLAHOMA - Adults continue annoying along creek and river bottoms in Washington County. (Okla. Coop. Sur.). LOUISIANA - Jefferson Parish Department of Mosquito Control larval collections during week ending November 5 included: Anopheles crucians, A. quadrimaculatus, Culex pipiens quinquefasciatus, C. restuans, C. salinarius, Culiseta inornata, Toxorhynchites rutilus septentrionalis, and Uranotaenia sapphirina. Light trap collections increased slightly during period. Culex salinarius predominated and Culiseta inornata increased in light traps. (Stokes).

HOUSE FLY (Musca domestica) - ARKANSAS - Numbers high and problem in dairy buildings in northwest. (Ark. Ins. Sur.). NEW MEXICO - Annoying around homes and other farm buildings in Bernalillo and Torrance Counties. (Heninger).

HORN FLY (Haematobia irritans) - OKLAHOMA - Ranged 30-50 per head on cows and up to 75 per head on yearlings in Payne County. Averaged 50 per head on cows in Tillman County. (Okla. Coop. Sur.).

BLACK FLIES - UTAH - Annoying horses at Panguitch, Garfield County, and Mt. Carmel, Kane County. (Knowlton).

BLACK BLOW FLY (Phormia regina) - ALABAMA - Larvae causing considerable concern in Russell and Wilcox Counties. (Emrick, McLean, Farquhar).

CATTLE LICE - OKLAHOMA - Moderate on cattle in Choctaw County; first report of season. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

GERMAN COCKROACH (Blattella germanica)- ARIZONA - Heavy and requiring controls throughout Yuma. (Ariz. Coop. Sur.).

AN EARWIG (Labidura riparia) - ARIZONA - Entering homes in Yuma, Maricopa, Pinal and Pima Counties. (Ariz. Coop. Sur.).

A DEATHWATCH BEETLE (Hadrobregmus carinatus) - DELAWARE - Heavy in structural timbers of home in New Castle County. Collected by D. MacCreary. Det. by W. Connell. (Burbutis).

CLUSTER FLY (Pollenia rudis) - OHIO - Heavy on the outside walls of home at Amherst, Lorain County; large numbers within home. (Treece).

STORED-PRODUCT INSECTS

TOBACCO MOTH (Ephestia cautella) - IOWA - Larvae feeding on hay and entering milk room in Jones County; collected in milk room in Chickasaw County. These are new county records. Larvae collected in Dubuque County. (Iowa Ins. Inf., Oct. 28).

GRANARY WEEVIL (Sitophilus granarius) - MARYLAND - Adults collected from newly harvested corn at Street, Harford County. (U. Md., Ent. Dept.).

BENEFICIAL INSECTS

PREDATORS - ILLINOIS - Nabis spp. (damsel bugs) numerous with occasional lady beetle adults and larvae, Chrysopa oculata and syrphid fly larvae noted in alfalfa in southeast. (Ill. Ins. Rpt.). OKLAHOMA - Predators increasing in wheat in southwest despite lack of prey. Hippodamia convergens, Chrysopa spp. (green lacewings) and Nabis spp. common; average 1 per linear foot in many areas. (Okla. Coop. Sur.). NEW MEXICO - Lacewing adults heavy in cotton in Lea County. (Campbell, Harrison).

CORRECTIONS

CEIR 15(31): 871 line 3 - NEW HAMPSHIRE - Dactynotus rudbeckiae should read Aphis rociadea deforming delphiniums ... . Det. by L. M. Russell.

CEIR 15(44): 1223 - LESSER PEACH TREE BORER (Synathedon pictipes) should read Synanthedon pictipes.

CEIR 15(45): 1240 - CORN LEAF APHID (Rhopalosiphum madis) should read (Rhopalosiphum maidis).

CEIR 15(45): 1246 - NANTUCKET PINE TIP MOTH (Rhyaconia frustrana) should read Rhyacionia frustrana.

CEIR 15(45): 1251 - STATUS OF THE SCREW-WORM (Cochlimoyia hominivorax) ... should read (Cochliomyia hominivorax)... .

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 11/1			BL	13					3							1				3		2		
GEORGIA																								
Tifton 10/28-11/3	42-74	0	BL						0	14								0	0					
KANSAS																								
Garden City 10/20, 22-28, 11/1,3			BL			8																		
Hays 11/4			BL			0																		
MISSISSIPPI																								
Stoneville 10/29-11/4	36-77	0	2BL	179					255		20					5	4			135	219	368		
NEBRASKA																								
Scotts Bluff Expt. Sta. 10/9-15				9		49					2					7				8				
TENNESSEE (Counties)																								
Maury 10/25-11/1				5					2		11									2				
Robertson 10/25-11/1									2		45									1		1		
Knox 10/25-11/1				4					2		10						1			2				
Johnson 10/25-11/1				2					4		9					1				9		1		
TEXAS																								
Waco 10/30-11/5			BL	0			1		20	3	2					4	1			6	38	2	3	

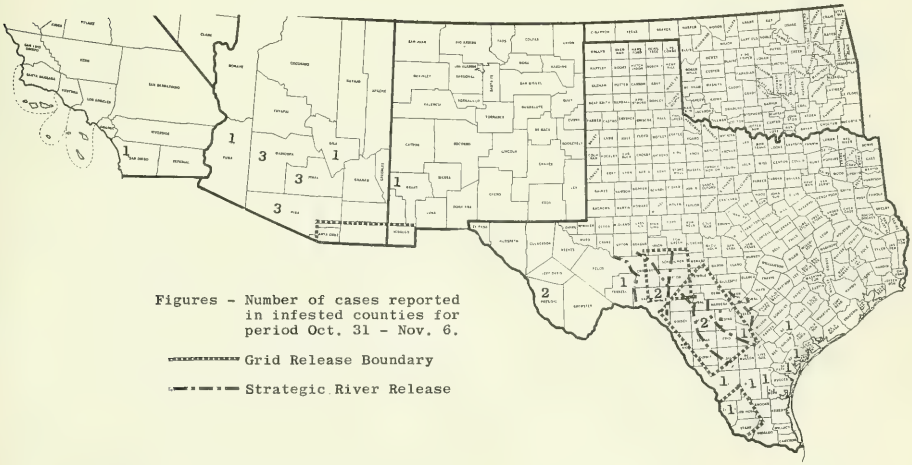
STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period October 31 - November 6 a total of 28 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Presidio, Uvalde and Val Verde 2 each, Atascosa, De Witt, San Patricio, Zapata, Refugio, Webb, Duval, Jim Wells and Terrell 1 each; NEW MEXICO - Grant 1; ARIZONA - Maricopa, Pinal and Pima 3 each, Yuma and Gila 1 each; CALIFORNIA - San Diego 1. The Republic of Mexico reported 108 cases: Sonora 19, Coahuila 13, Chihuahua 35, Nuevo Leon 8, Tamaulipas 21, Territorio sur de Baja California 12. Sterile screw-worm flies released: Texas 27,538,250, New Mexico 2,400,000, Arizona 18,212,000, California 100,000, Mexico 52,458,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	361	5886	224	6501	161.16	90.53
1964	23	187	293	5561	7.84	3.36
1965	28	892	112	4350	25.00	20.50
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	158	3720	67	1778	235.82	209.22
1965	130	4957	35	1996	371.42	248.79

Feasibility Survey - During this period 124 cases were identified in Mexico south of the Barrier Zone, as follows: Yucatan 1, Durango 31, Guerrero 24, Nayarit 4, Colima 1, San Luis Potosi 3, Oaxaca 1, Michoacan 17, Puebla 2, Veracruz 18, Jalisco 14, Tabasco 3, Morelos 5, Guanajuato 0.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



ESTIMATED LOSSES AND PRODUCTION COSTS ATTRIBUTED TO INSECTS AND RELATED ARTHROPODS

IN Oklahoma (State or District) DURING 1964 (Year)

ATTACKING Beef cattle (Commodity or Crop)

A. Pest or pest complex: Flies, ticks, lice, cattle grubs

B. Number of head [a] produced (From CRS) No. 3,854,000

C. Average yield per head [a] (From CRS) Units/ 365 lbs.*

D. Price[b] per unit (cwt.)[c] (From CRS) $/ 19.80

E. Head [a] needing control No. 3,507,140

F. Head [a] treated No. 2,069,213

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 24

I. Loss in yield, units per head [a], C x H Units/ .876 cwt.

J. Loss in yield, $ per head [a], D x I $/ 17.34

K. Loss in quality, $ per ---- [a] $/ -----

L. Yield loss for all head [a], (E-F) x I Units 1,259,624 cwt.

M. Control cost, $ per head [a], $/ 1.66

N. Control cost for all head [a], F x M $ 3,434,893.58

O. Yield loss for all head [a], (E-F) x J $ 24,933,654.18

P. Quality loss for all ---- [a], (E-F) x K $ -----

Q. Combined control cost and losses, N + O + P $ 28,368,547.76

R. Percent loss due to each insect in the complex: Horn fly 41, cattle grubs 20, lice 14, ticks 12, horse flies 5, others 8.

Comment: * Based on 1963 averages - 1964 not available.

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Don C. Arnold

Date August 27, 1965

ATTACKING Dairy cattle (Commodity or Crop)

A. Pest or pest complex: Flies, cattle grubs, lice, ticks

B. Number of lbs. [a] produced (From CRS) No. 1,303,000.00

C. Average yield per head [a] (From CRS) Units/ 6,550 lbs.

D. Price[b] per unit (cwt.)[c] (From CRS) $/ 4.64

E. Head [a] needing control No. 178,640

F. Head [a] treated No. 145,949

G. Reduction due to not treating where needed:

H. Loss in yield, percent % 26

I. Loss in yield, units per head [a], C x H Units/ 17.03 cwt.

J. Loss in yield, $ per head [a], D x I $/ 79.02

K. Loss in quality, $ per ---- [a] $/ -----

L. Yield loss for all head [a], (E-F) x I Units 556,727.73 cwt.

M. Control cost, $ per head [a], $/ 3.16

N. Control cost for all head [a], F x M $ 461,198.84

O. Yield loss for all head [a], (E-F) x J $ 2,583,242.82

P. Quality loss for all ---- [a], (E-F) x K $ -----

Q. Combined control cost and losses, N + O + P $ 3,044,441.66

R. Percent loss due to each insect in the complex: Horn fly 51, lice 13, cattle grubs 12, stable fly 7, horse flies 5, ticks 4, house fly 3, others 5.

Comment:

a. Acres, head of cattle or other producing units used by Crop Reporting Service.

b. Season average price per unit as given by CRS (describe basis).

c. Bushels, boxes, tons or other marketing units used by CRS; show which in ( ).

Submitted by Don C. Arnold

Date August 27, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE
HYATTSVILLE, MD. 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20781

Volume 15 November 19, 1965 Number 47

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Late buildup of PEA APHID in alfalfa causing concern in Arizona. Pea aphid and SPOTTED ALFALFA APHID locally heavy in same crop in Sutter County, California. (pp. 1275, 1276).

CODLING MOTH serious in apple orchards in New Mexico. (p. 1276). BEET ARMYWORM necessitated controls to protect citrus seedlings in Yuma County, Arizona. (p. 1277).

CABBAGE LOOPER economic on lettuce in Arizona. IMPORTED CABBAGEWORM serious on garden cruifers in New Mexico. (p. 1277).

DETECTION

FACE FLY (*Musca autumnalis*) reported for first time in Clay County, Missouri. (p. 1279).

CORRECTIONS

See page 1279.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1281).

Status of *Phyllophaga bruneri* (a Cuban May beetle) in Florida. (p. 1282).

Status of Brown-tail Moth in the United States (Map). (p. 1283).

Reports in this issue are for the week ending November 12 unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-NOVEMBER TO MID-DECEMBER 1965

The Weather Bureau's 30-day outlook for the period from mid-November to mid-December calls for temperatures to average above seasonal normals in Central and southern portions of the Western Plateau, the Central and Southern Plains, and the South. Below normal averages are called for in northern border States extending from Montana to New England. Near normal temperatures are predicted in unspecified areas. Subnormal precipitation is indicated from the Central and Southern Plains to the Eastern Seaboard including the middle and north Atlantic Coast States. Above normal precipitation is expected over the Great Basin, the Central and Southern Pacific Coast, and western portions of the Southern Plateau, while near normal totals are anticipated in unspecified areas.

Weather forcast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

WEATHER OF THE WEEK ENDING NOVEMBER 15

HIGHLIGHTS: (1) Strong cooling in most North and Central. (2) Stormy conditions, especially northern Great Plains to Atlantic. (3) Heavy rains, Pacific coastal areas.

TEMPERATURE: Temperatures averaged above normal west of the Continental Divide and south of the 40th parallel. In the West, this was the 3d consecutive week with above normal temperatures. Average temperatures as much as 6° below normal occurred only in northeastern Montana and extreme northern Minnesota. These same areas reported temperatures below zero during the week. The cooling in the northern and central portions was partly seasonal but left weekly average temperatures 5° to 15° cooler than the previous week from the Idaho-Utah area eastward to the Appalachians. The northern Plains were coldest on Tuesday and at the weekend and the Northeast was coldest on Wednesday and Sunday. Chicago, Illinois, temperatures were down to 26° on Wednesday, up to 59° on Friday and down to 20° on Sunday. Similarly, Pittsburgh, Pennsylvania, was up to 64° on Monday, down to 23° Wednesday, up to 56° on Friday, but down to 26° on Sunday.

PRECIPITATION: A persistent deep Low off the Pacific coast caused weekly rains up to 4 inches on the Northwest coast, up to 2 inches at San Francisco, and near 1 inch in the Los Angeles-San Diego area, California. Precipitation was light in the Interior Southwest and over most of the Rockies and the Great Plains north of Texas. Precipitation was frequent over the east half with weekly totals which were light to moderate. In the northeast drought area, amounts were mostly 0.25-0.75 inch.

SNOWFALL: Snow late in the week amounted to several inches from eastern Montana to Michigan. In the Far West, snow fell above 4,000 feet in the Cascades to above about 7,000 feet in the southern Sierras.

STORMS: On Friday, tornadoes formed along a squall line in northeastern Illinois and northwestern Indiana. There was one fatality, scores of injured, and considerable damage. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Ostrina nubilalis) - SOUTH DAKOTA - Fall survey completed in Brown, Day, Marshall and Roberts Counties. As in other eastern counties, infestations appeared spotty in northeast. In areas of fields surveyed, larval populations generally very low; one field each in Brown and Marshall Counties averaged 238 and 176 borers per 100 stalks, respectively. (Jones). ALABAMA - Overwintering larvae numerous in stalks in Morgan County. (Rutledge et al.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ALABAMA - Light numbers overwintering in corn stubble in Morgan County where stalks girdled just above ground. (Rutledge et al.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - OKLAHOMA - Feeding decreasing on wheat in Woodward County. Some larvae parasitized by tachina fly larvae. (Okla. Coop. Sur.).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Ranged 1-3 per linear foot in wheat in Noble and Lexington areas, Cleveland County; averaged 1 per linear foot in Yuba area, Bryan County. None in fields checked in other central and south central counties. (Okla. Coop. Sur.).

GRAIN APHIDS - OKLAHOMA - Rhopalosiphum maidis light in wheat in Bryan, Murray, Garvin, Stephens and Cleveland Counties, in oats in Carter County, and in small grains in Mayes County. Ranged up to 5 per linear foot in Carter County. R. padi moderate in some wheat in Johnston and Bryan Counties, light in Stephens County. Most feeding by R. padi at or below ground surface. Macrosiphum avenae light in Johnston County wheat. (Okla. Coop. Sur.).

A CORN LEAFHOPPER (Dalbulus maidis) - CALIFORNIA - Nymphs and adults heavy on corn in Selma, Fresno County. (Cal. Coop. Rpt.).

A GRASS MOTH (Crambus sp.) - UTAH - Larvae damaged school lawn at Huntington, Emery County, in September. Det. by D. M. Weisman. (Knowlton, Day).

BERMUDAGRASS MITE (Aceria neocynodonis) - CALIFORNIA - Infesting Bermuda grass locally in Orland, Glenn County. (Cal. Coop. Rpt.).

ALFALFA WEEVIL (Hypera postica) - OHIO - Most numerous in Meigs County; averaged one adult per sweep. Only 2 per 25 sweeps in Fairfield County. (Rose).

A SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - NEW MEXICO - Adults averaged 6-8 per 25 sweeps in Socorro County alfalfa. (Mathews).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Moderate in some Yuma County fields and in some areas of Maricopa County. (Ariz. Coop. Sur.).

A NOCTUID MOTH (Tathorynchus angustiorata) - ARIZONA - Larvae moderate and damaging alfalfa in Gila Valley, Yuma County, average 30 per 100 sweeps. (Ariz. Coop. Sur.).

PEA APHID (Acyrthosiphon pisum) - CALIFORNIA - Heavy locally on alfalfa in Robbins, Sutter County. (Cal. Coop. Rpt.). ARIZONA - Late buildup in alfalfa in Cochise and Graham Counties causing some concern. Honeydew deposits extremely heavy in some fields. (Ariz. Coop. Sur.). NEW MEXICO - Light in alfalfa in Socorro and Quay counties. (Kloepfer, Mathews). OKLAHOMA - Ranged 1-2 per 10 sweeps in Woodward County alfalfa. (Okla. Coop. Sur.). ARKANSAS - Slight increase expected. Still low in alfalfa in northwest. (Boyer). KANSAS - Ranged 0-300 per 10 sweeps in alfalfa in Cowley, Montgomery, Labette and Cherokee Counties. (Simpson). MICHIGAN - Relatively low in alfalfa where frost occurred. (Dowdy).

SPOTTED ALFALFA APHID (Therioaphis maculata) - CALIFORNIA - Heavy locally on alfalfa in Robbins, Sutter County. (Cal. Coop. Rpt.). ARIZONA - Some decrease observed in Yuma County alfalfa; continues moderate to heavy in Maricopa, Pinal, Graham and Cochise Counties. (Ariz. Coop. Sur.). UTAH - Very light in alfalfa in Brigham City area, Box Elder County. (Knowlton). KANSAS - Ranged 100-250 per 10 sweeps in alfalfa in southeast; winged and wingless forms present. (Simpson).

LYGUS BUGS (Lygus spp.) - NEW MEXICO - Adults per 25 sweeps in alfalfa averaged 2-3 in Socorro County (Mathews) and 3-5 in Quay and Roosevelt Counties. (Kloepfer) UTAH - Moderate, about alfalfa, weeds and garden plants in Logan-Hyde Park area, Cache County. (Knowlton).

TARNISHED PLANT BUG (Lygus lineolaris) - KANSAS - Ranged 50-100 per 10 sweeps in alfalfa in southeast. (Simpson).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Decreasing generally although some high counts in alfalfa remain in Yuma, Maricopa, and Pinal Counties. Light in Graham and Cochise Counties. (Ariz. Coop. Sur.).

SLUGS - MICHIGAN - Adults extremely abundant on soil surface in some Clinton County alfalfa. (Dowdy).

FRUIT INSECTS

CODLING MOTH (Carpocapsa pomonella) - NEW MEXICO - Serious problem in apple orchards; untreated orchards with 50-75 percent of fruit damaged. (Heninger).

LESSER PEACH TREE BORER (Synanthedon pictipes) - ALABAMA - Caused extreme damage to upper limbs, branches and twigs in peach orchard in Morgan County. (Houston, St. Cloud et al.).

PEACH TWIG BORER (Anarsia lineatella) - ALABAMA - Caused extreme damage to upper limbs, branches and twigs in peach orchard in Morgan County. (Houston, St. Cloud et al.).

ROSY APPLE APHID (Anuraphis rosea) - OHIO - Very abundant in 2 apple orchards in Meigs County. Averaged 16.5 winged forms and 62 nymphs per leaf on 1 tree. Mating observed; eggs and wingless females heavy in scarred tissues damaged by periodical cicada (Magicicada spp.) oviposition. Most numerous on remaining green leaves. (Rose). Eggs per foot on roughened twigs in Fairfield County orchard numbered 72 on sprayed Jonathans, 96 on sprayed Red Delicious, and 7 on unsprayed Jonathans; Chrysopa spp. (green lacewings) predominant predators. (Holdsworth).

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Light to moderate in improperly treated apple orchards at Farmington and Kirtland, San Juan County. (Heninger). ALABAMA - Caused extreme damage to root systems of apple trees in Morgan County home orchard. Numerous clusters of adults on roots 6-8 inches below ground surface; lesser numbers on twigs. (St. Cloud, Vest et al.).

SAN JOSE SCALE (Aspidiotus perniciosus) - NEW MEXICO - Light to moderately heavy on apple and pear twigs and branches in Farmington and Kirtland areas, San Juan County. (Heninger). CALIFORNIA - Heavy on twigs and bark of apple trees locally in Atascadero, San Luis Obispo County. (Cal. Coop. Rpt.).

WALNUT HUSK FLY (Rhagoletis completa) - CALIFORNIA - Medium on walnut husks in Sanger, Fresno County. (Cal. Coop. Rpt.). UTAH - Moderate to light in black walnuts at Slaterville, Weber County. (Knowlton).

APPLE MAGGOT (Rhagoletis pomonella) - PENNSYLVANIA - Larvae heavy in Courtland apples in Lackawanna County. (Gesell, Nov. 8.).

EUROPEAN RED MITE (Panonychus ulmi) - OHIO - Late season high population in apple orchard near Vales Mills, Meigs County; averaged 31 per leaf. Occasional leaf with over 100 mites. Eggs abundant on permanent wood of trees. (Rose). Egg counts on roughened apple twigs in Fairfield County averaged over 1,560 per linear foot on sprayed Jonathans and over 850 on sprayed Red Delicious; zero on nonsprayed Jonathans. (Holdsworth). Eggs present at nodes and around buds of grapes in Ashtabula County. (Still).

A SPIDER MITE (Tetranychus mcdanieli) - NEW MEXICO - Mites, probably this species, light to heavy and damaging apple foliage in San Juan County. (Heninger).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Continues heavy throughout State; up to 4 larvae per pecan shuck in many orchards. (Deakle, Baskin et al.).

BLACK-MARGINED APHID (Monellia costalis) - CALIFORNIA - Heavy on dooryard pecan in Oakdale, Stanislaus County. (Cal. Coop. Rpt.).

FILBERT APHID (Myzocallis coryli) - UTAH - Numerous on hazel bush leaves at Logan, Cache County; largely oviparous females, many mating. (Knowlton).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Controls necessary to protect citrus seedlings in Yuma County nursery. (Ariz. Coop. Sur.).

COWPEA APHID (Aphis craccivora) - ARIZONA - Scattered but heavy numbers on young citrus in Yuma County require controls. (Ariz. Coop. Sur.).

CITRUS FLAT MITE (Brevipalpus lewisi) - CALIFORNIA - Locally heavy on navel oranges in Terra Bella, Tulare County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

TOMATO FRUITWORM (Heliothis zea) - ARIZONA - Scattered populations damaging lettuce in areas of Maricopa County. Controls required in many fields. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - ARIZONA - Economic; continues number one lettuce pest in Yuma, Maricopa, and Cochise Counties. (Ariz. Coop. Sur.).

MELON APHID (Aphis gossypii) - ARIZONA - Light to moderate infestations becoming problem on lettuce in Maricopa County. (Ariz. Coop. Sur.).

BANDED CUCUMBER BEETLE (Diabrotica balteata) - CALIFORNIA - Medium in squash plantings in Chula Vista, San Diego County. (Cal. Coop. Rpt.).

IMPORTED CABBAGEWORM (Pieris rapae) - NEW MEXICO - Seriously damaged cabbage, brussels sprouts, broccoli and cauliflower in gardens near Farmington, San Juan County. (Heninger). MICHIGAN - Few adults still flying in Livingston County November 7; unseasonably late date. (Newman).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - Moth catches in sex-lure traps decreased in Yuma County; 2 larvae found in gin trash collections. (Ariz. Coop. Sur.). NEW MEXICO - Light and spotty in green bolls near Tucumcari, Quay County. (Kloepfer).

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Adults heavy in squares and blooms in Morgan and Lee Counties, except in lower areas of Morgan County where frost killed plants. (Rutledge, St. Cloud et al.).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - ALABAMA - Numerous in all cotton examined. (Rutledge, St. Cloud et al.).

TARNISHED PLANT BUG (Lygus lineolaris) - ALABAMA - Numerous in all cotton examined. (Rutledge, St. Cloud et al.).

COTTON APHID (Aphis gossypii) - ALABAMA - Numerous in all cotton examined; extremely heavy in squares. (Rutledge, St. Cloud et al.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BAGWORM (Thyridopteryx ephemeraeformis) - FLORIDA - Caused moderate to severe damage to leaves of varigated ligustrum and strawberry guava at Tampa, Hillsborough County. (Patton, Oct. 10).

EASTERN TENT CATERPILLAR (Malacosoma americanum) - ALABAMA - Egg masses numerous on older, isolated cherry trees in Morgan County. Numerous trees free from eggs. (Rutledge, St. Cloud et al.).

A PYRAUSTID MOTH (Undulambia polystichalis) - FLORIDA - Larvae moderately damaged stem of leather-leaf fern (Polystichum adiantiforme) in nursery at De Land, Volusia County. (Roberts, Nov. 2).

SHOT-HOLE BORER (Scolytus rugulosus) - CALIFORNIA - Larvae medium in bark and trunk of hawthorn trees in nursery in Merced, Merced County. (Cal. Coop. Rpt.).

TWIG GIRDLER (Oncideres cingulata) - ALABAMA - Pruning heavy on isolated persimmon and hickory trees throughout Morgan County; 25-50 twigs cut from many older persimmon trees. (Rutledge, St. Cloud et al.).

FULLER ROSE BEETLE (Pantomorus godmani) - CALIFORNIA - Adults heavy on leaves of althea in Paradise, Butte County. (Cal. Coop. Rpt.).

LEAD-CABLE BORER (Scobicia declivis) - CALIFORNIA - Larvae heavy in limbs of acacia in Riverside, Riverside County. (Cal. Coop. Rpt.).

APHIDS - CALIFORNIA - Neophyllaphis podocarpi medium on podocarpus in San Jose, Santa Clara County, and Vista, San Diego County. Myzocallis bella heavy on oaks in Fresno, Fresno County. (Cal. Coop. Rpt.). UTAH - Phyllaphis fagi abundant on European beech at Logan, Cache County. (Knowlton). Lachnus salignus, Pterocomma smithiae and Pterocomma spp. extremely numerous on willow twig bark throughout Salt Lake, much of Weber, and parts of Utah, Box Elder and Davis Counties. (Knowlton, Burningham). Leaf feeding aphids very numerous on some weeping willows in Cache and Salt Lake Counties. Aphids unusually numerous on rose throughout Salt Lake County; very numerous at Provo, Ogden, and Brigham-Willard area. (Knowlton). ALABAMA - Unspecified species locally heavy and damaging pyracantha in Mobile County; controls applied. Large numbers of winged Aphis spiraecola adults migrating to foundation plantings of spirea in several Lee County locations. (Deakle et al).

COCCIDS - FLORIDA - Adults of Icerya purchasi localized and severely damaged leaves of Jacaranda acutifolia in nursery at Fern Park, Seminole County (McLeod, Oct. 23). Diaspis carueli moderately to severely damaged juniper in a nursery at Miami, October 28, and Asterolecanium pustulans adults scattered and severely damaged stem of oleander in a nursery at Hialeah, Dade County. (Herrmann, Nov.1). Saissetia coffeae localized and severely damaged coontie (Zamia floridana) in nursery at Tallavast, Manatee County. (Bickner, Oct. 28). CALIFORNIA - Lecanium corni locally heavy on purple leaf plum nursery stock in Vallejo, Solano County, and Pseudococcus microcirculus medium on orchids in nursery in Menlo Park, San Mateo County. (Cal. Coop. Rpt.). MISSOURI - Aspidiotus perniciosus heavy on pyracantha twigs in Cole County. (Craig).

SPIDER MITES - CALIFORNIA - Petrobia harti medium on oxalis nursery plants in Vista, San Diego County. Oligonychus milleri medium on Pinus patula in Fresno, Fresno County. (Cal. Coop. Rpt.).

PRIVET MITE (Brevipalpus obovatus) - CALIFORNIA - Eggs and adults heavy on privet in Plymouth, Amador County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - UTAH - Annoying in Box Elder, Utah and Davis Counties. (Knowlton). Culex erythrothorax very annoying to hunters past 3 weeks in marshes northwest of Salt Lake City, Salt Lake County; biting by 6-8 per hand consistent in late afternoon, November 6. No Aedes dorsalis observed. (Collett).

FACE FLY (Musca autumnalis) - MISSOURI - Reported in homes in Clay County. This is a new county record. (Peters). UTAH - Still annoying livestock in Cache County. (Knowlton).

HORN FLY (Haematobia irritans) - OKLAHOMA - Continues to decrease in Payne County. (Okla. Coop. Sur.).

BLACK WIDOW SPIDER (Latrodectus mactans) - UTAH - Number noted in Salt Lake County homes. (Burningham, Knowlton). Noted about homes in Orem, Utah County, and Farr West, Weber County. Bit boy at Payson, Utah County. (Knowlton). OKLAHOMA - Reported in Payne County home. (Okla. Coop. Sur.).

HOUSEHOLD AND STRUCTURAL INSECTS

OLD-HOUSE BORER (Hylotrupes bajulus) - MARYLAND - Larvae infested furring strips in home at Wheaton, Montgomery County. (U. Md., Ent. Dept.).

A CAMEL CRICKET (Ceutophilus sp.) - NORTH CAROLINA - Nuisance around homes in Rowan, Robeson and Gaston Counties. (Corriher, Ashton).

LARGER YELLOW ANT (Acanthomyops interjectus) - MARYLAND - Alates swarmed at University Park, Prince Georges County. (U. Md., Ent. Dept.).

STORED-PRODUCT INSECTS

POTATO TUBERWORM (Gnorimoschema operculellum) - MARYLAND - Infesting stored potatoes in Carroll County. (U. Md., Ent. Dept.).

BENEFICIAL INSECTS

HYMENOPTEROUS PARASITES - ARKANSAS - Active and numerous in legumes and small grains; contributing to low aphid numbers. (Boyer).

CORRECTIONS

CEIR 15(44): 1230 - JAPANESE BEETLE (Popillia japonica) - VIRGINIA - Change to read WHITE-FRINGED BEETLES (Graphognathus spp.) - VIRGINIA ... .

CEIR 15(46): 1263 - SPOTTED ALFALFA APHID (Therioaphis maculata) - NEBRASKA - Should read "Averaged 2.5 per sweep..."

CEIR 15(46): 1269 - TOBACCO MOTH (Ephestia cautella) should read Ephestia elutella.

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Choristoneura auxiliaris (spruce budworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laxocrepis constitalis (alfalfa webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pedesis ornithogalli (yellow-striped armyworm)	Potosiarcs quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																							
Gainesville 11/8			BL	1																			
GEORGIA																							
Tifton 11/4-10	50-75	0.05	BL							0	6						0	0					
KANSAS																							
Garden City 11/5-10						1																	
MICHIGAN (County)																							
Jackson 11/3-4			BL																8				
MISSISSIPPI																							
Stoneville 11/5-11	42-76	1.18	2 BL	128				386			6				4	7			112	214	537		
SOUTH CAROLINA																							
Charleston 11/1-7	33-77	0.03	BL	19			0	8	0	0					0	0	0	0	16		5	0	
Charleston 11/8-14	51-78	0.64	BL	23			0	22	0	0					0	0	0	0	24		13	0	
TENNESSEE (Counties)																							
Madison 11/2-8				9							29								4				
Cumberland 11/2-8				26				7			31				2	1			8				
Knox 11/2-8				2				1			4								1				
TEXAS																							
Waco 11/6-12			BL	0			0	46	6	18					24	3			9	27	4	8	

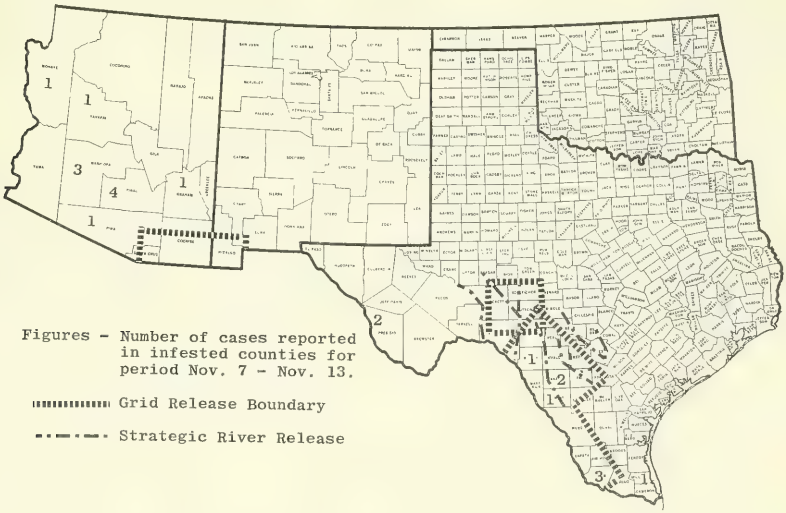
STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period November 7-13, a total of 21 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Kinney, Dimmit and Willacy 1 each, Presidio and Zavala 2 each and Starr 3; ARIZONA - Graham, Yavapai, Pima and Mohave 1 each, Maricopa 3 and Pinal 4. The Republic of Mexico reported 72 cases: Territorio sur de Baja California 5, Sonora 20, Tamaulipas 10, Chihuahua 29 and Coahuila and Nuevo Leon 4 each. Sterile screw-worm flies released: Texas 28,630,250, New Mexico 3,740,000, Arizona 17,080,000, California 400,000 and Mexico 42,508,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	219	6105	273	6774	80.21	90.12
1964	13	200	219	5780	5.93	3.46
1965	21	913	138	4482	13.76	20.32
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	130	3850	55	1833	83.87	210.03
1965	91	5042	59	2049	150.84	245.97

Feasibility Survey - During this period, 339 cases were identified in Mexico south of the Barrier Zone, as follows: Veracruz 107, Sinaloa 21, Morelos 8, Colima 1, Oaxaca 3, Guanajuato 6, Nayarit 6, San Luis Potosi 26, Guerrero 37, Queretaro 1, Jalisco 19, Durango 68, Michoacan 13, Chiapas 12, Hidalgo 1, Puebla 3, Tabasco 5, Yucatan 1, Aguascalientes 1.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



Status of Phyllophaga bruneri Chapin (a Cuban May beetle) in Florida

A Cuban May beetle, Phyllophaga bruneri, was collected in the city of Miami, Dade County, in light traps during June 1959. It was first reported from Cuba in 1921 and is known to occur only in these two areas. Early surveys in Miami revealed an infested area of approximately 4 square miles. Recent surveys reveal an estimated infested area in excess of 400 square miles, where the insect is very abundant, and injuring a wide range of hosts. It has completely defoliated West Indies mahogany and lychee and damaged the leaves and blossoms of citrus and peaches. Adults fly to leaves where they feed on the interveinal areas, often leaving only the midrib. Until May 1964, its economic status was questionable. Since then, however, this beetle has been recognized as having economic potential.

This species is without marked distinguishing characteristics except for a darker brown stripe along the middle of the dorsum and is easily confused with other species of Phyllophaga found in the Miami area. Phyllophaga bruneri is light brown in color and slightly less than 0.5 inch in length. The adults fly and feed at night and may be found after dark in large numbers on leaves and twigs among stones or in plant debris on the soil surface. Beetles are most abundant during early May although a second but less abundant peak of emergence occurs in September or October.

Larvae, the characteristic c-shaped white grubs of the family Scarabaeidae, live in the soil, attaining lengths of almost 0.5 inch. Larval food is unknown, but it is suspected they glean nourishment from decomposing leaf and twig materials. Observations indicate that adults probably remain relatively close to their origin; i.e., adults do not fly any great distance nor do larvae move far from where eggs hatch.

Research to determine insecticides and methods of application that will control the larvae and adults continues.

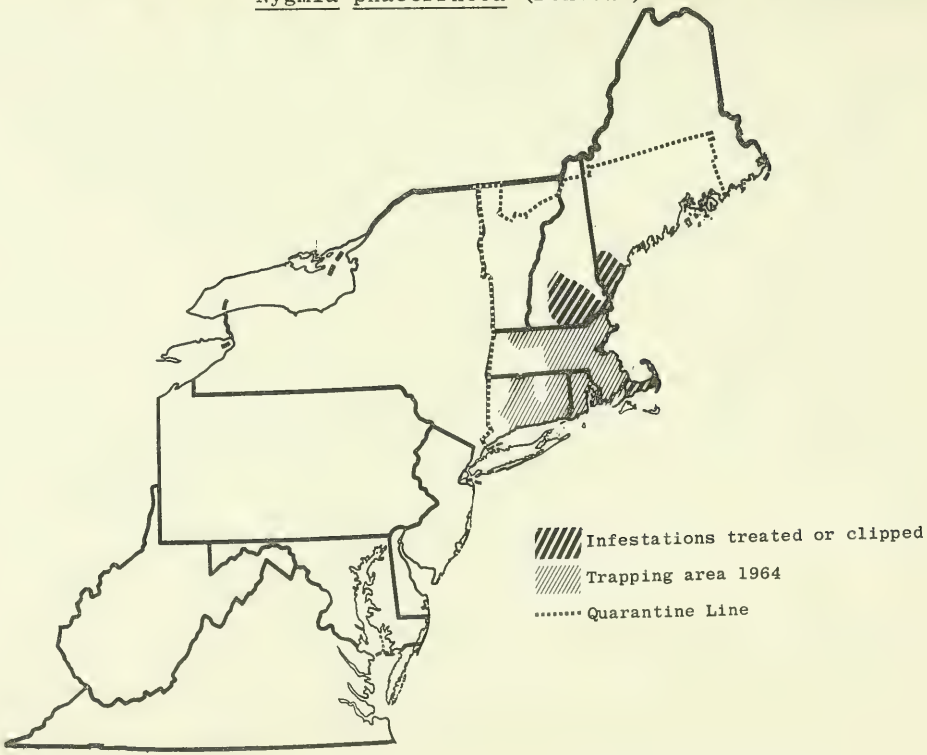
Following the spring emergence in 1964, many inquiries were received concerning feeding by the adults. Investigations showed that these nocturnal adults fed on the leaves, flowers and young fruit of many plants, but that they were seldom observed. In 1965 they were observed feeding on flowers and embryonic fruits of Citrus spp. Attracted by lights, beetles were reported invading houses, being prevalent throughout the dwelling. A number of mahogany trees and certain other plants were reportedly destroyed in 1965 as in 1964.

Peak adult emergence of this May beetle occurred in the Miami area during the first few days of May in 1965. A total of 49,210 adults were collected in a single blacklight trap in one trap-night at a residence on 102nd Street in Miami. During the third week of May, 10,000 adults were collected during 2 trap-nights. By the end of May, beetles were relatively few in number. West Indies mahogany (Swietenia mahagoni) trees were completely defoliated in heavily infested areas of the city. Damage was heavy to Florida trema (Trema micrantha) and royal poinciana (Delonix regia) in many areas. Occasional specimens of sapodilla (Achras zapota), Cecropia sp., Malus sp., Bauhinia sp. and Hibiscus sp. were partially defoliated. There was some feeding on leaves and blossoms of Citrus spp. and leaves of Prunus sp. (peach), plus injury to miscellaneous other plants. (Also see CEIR 10(4):47-49).

D. O. Wolfenbarger, D. H. Habeck,
Florida Cooperative Insect Report

BROWN-TAIL MOTH

Nygmia phaeorrhoea (Donovan)



Prepared in Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service, USDA

November 19, 1965

CEIR 15(47): 11-19-65

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 November 26, 1965 Number 48

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

EUROPEAN CORN BORER survey shows infestations lower in Indiana than in 1964; decline also indicated in South Dakota for third consecutive year. (p. 1287).

GRAIN APHIDS extremely heavy on oats in Alabama, with up to 200 per leaf on 6-inch high plants. (p. 1287).

CITRUS RED MITE population on Florida citrus at lowest level in 15 years of record, not only for November but for any month. (p. 1290).

DETECTION

New county records include: ALFALFA WEEVIL (*Hypera postica*) in Maries County, Missouri, (p. 1290); a FRUIT FLY (*Anastrepha suspensa*) in St. Lucie County, Florida,(p. 1291); ELM LEAF BEETLE (*Galerucella xanthomelaena*) in Stanton County, Kansas, (p. 1292).

CORRECTIONS

See page 1294.

SCIENTIFIC NAME CHANGES

Name changes are required for several moths, some of which are in the List of Common Names of Insects, as approved by the Entomological Society of America (Ent. Soc. Amer. Bul. 6: 175-210, 1960). (p. 1294).

SPECIAL REPORTS

Status of Cereal Leaf Beetle (Map). (p. 1288).

Status of the Screw-worm in the Southwest. (p. 1296).

Reports in this issue are for the week ending November 19 unless otherwise indicated.

WEATHER OF THE WEEK ENDING NOVEMBER 22

HIGHLIGHTS: (1) Heavy rains, southern California. (2) Continued mild and dry in many central areas. (3) Wintry along northern border.

TEMPERATURE: As high barometric pressure persisted in central portions of the country, temperatures averaged above normal over large areas. A broad band extending from Washington State to Texas averaged from 6° to 12° above the normal. In some portions of the central Rockies this was the fourth consecutive warm week. Over the 48 States, only a few locations in the extreme North and extreme East were even slightly below normal. In general, temperatures were rather usual during the period but at northern border regions there were alternate periods of warming and a brief spell of temperatures below zero.

PRECIPITATION: Weather was generally fair and sunny from the Utah-Arizona area eastward to the Atlantic, except for moderate to heavy rains over Tennessee and the southern Appalachian area at the week's end. Precipitation amounts were also moderate from the Great Lakes to New England. Most of the Rocky Mountains and Great Plains regions reported little or no precipitation; however, the three Pacific Coast States received moderate to heavy weekly amounts with record to near record totals in southern California. Along the north Pacific Coast winds were strong and reached 50 to 60 mph in Oregon and Washington.

SNOWFALL: AN ACTIVE LOW - Winter moved eastward through the northern tier of States during the week bringing changeable conditions and substantial amounts of snow. Snowfall of one to four inches came to parts of Montana and the Dakotas on the 15th and more than a foot fell in parts of northern Minnesota. Winds increased to 50 mph as Upper Michigan received 7 to 10 inches of snow. As the storm moved eastward, extreme northern portions of New York and New England reported up to 10 inches of snowfall. The same storm that brought snow and wind to the North caused considerable storms and at least six tornadoes in Ohio but apparently without much damage. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - INDIANA - Statewide infestations lower in 1965 than during 1964. Averaged 37.5 borers per 100 plants, with 25.8 percent of corn plants sampled infested. Losses estimated at 1.1 percent. Averaged 59.6 borers per 100 plants, with losses set at 1.5 percent in 1964. (Huber). SOUTH DAKOTA - Fall survey indicates decline in borers per 100 stalks for third consecutive year. Exception was northeast district with over 100 per 100 stalks; however, decline also noted in this district in Roberts and Clark Counties. Greatest increase in borer numbers noted in Deuel County. Although district averages down generally, some counties showed increases. Increases occurred in Clay, Yankton, Bon Homme and Charles Mix Counties (southeast); Lake, Brookings, and Kingsbury Counties (east central); and Brown County (central) had slight increase in numbers. Except for Deuel County, little damage evident to corn by second-brood borers. Nearly all damage observed in fields mainly attributable to first generation. (Jones).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Observed in most wheat and oats checked in east central area; 1-4 per linear foot in wheat in Muskogee, Sequoyah, and Adair Counties and 2-5 per linear foot in oats in Haskell and Sequoyah Counties. Averaged 1 per linear foot in wheat in Kiowa, Jackson, and Tulsa Counties. Light in Cleveland County wheat. (Okla. Coop. Sur.). KANSAS - Very light in occasional field in southeast, east central, and northeast areas. (Simpson).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Ranged up to 25 per linear foot in Tillman County wheat. Averaged 3 per linear foot in Cotton and Marshall Counties. Averaged 30 per linear foot in wheat in Tulsa County and 1 per linear foot in Muskogee and Sequoyah Counties. Light in Mayes County barley. (Okla. Coop. Sur.).

ENGLISH GRAIN APHID (Macrosiphum avenae) - OKLAHOMA - Ranged 1-5 per linear foot in wheat and oats checked in east central area and Tulsa County. (Okla. Coop. Sur.). MISSOURI - Low on small grains in south central and southwestern districts; 0-150 per 100 feet of row. (Houser).

GRAIN APHIDS - ALABAMA - Extremely high numbers on fall oats in Baldwin and Mobile Counties; some 6-inch high oats in Mobile County with up to 200 aphids per leaf. (Turner, Vickery). ARKANSAS - Very low in legumes and small grain crops in northwest. Extremely dry weather may be cause of low populations. (Ark. Ins. Sur.). OKLAHOMA - Rhopalosiphum padi ranged 1-12 per linear foot in most wheat and oats checked in Muskogee, Sequoyah and Le Flore Counties; averaged 20 per linear foot in Adair County wheat and 2 per linear foot in Kiowa County oats. (Okla. Coop. Sur.). KANSAS - Rhopalosiphum rufiabdominalis light on plant roots in most fields in southeast and east central areas. (Simpson).

Small Grain Pest Survey in Texas - During period October 29 - November 10, small grain pest survey made in following 21 panhandle counties: Randall, Deaf Smith, Castro, Parmer, Oldham, Potter, Swisher, Briscoe, Floyd, Hale, Hutchinson, Hansford, Moore, Hartley, Dallam, Sherman, Gray, Ochiltree, Hemphill, Roberts and Carson. Schizaphis graminum found in all but Roberts, Ochiltree, Dallam and Hartley Counties. Populations, in general, less than 10 per foot of planted row; however, heavier numbers found in fields in Deaf Smith, Parmer, Briscoe and Gray Counties. Highest population of 20-30 per linear foot found in Gray County. S. graminum averaged less than 10 per linear foot in Armstrong, Donley and Hall Counties. Rhopalosiphum maidis present in most fields observed. Chaetocnema spp. (flea beetles) general with some border damage to wheat noted in few fields in southern counties surveyed. Hippodamia convergens (two-spotted lady beetle) generally observed over surveyed area. (Daniels).

HESSIAN FLY (Mayetiola destructor) - KANSAS - Trace numbers found in planted wheat in northeast and east central districts as far west as Smith County. Infestation 25 percent in Republic County field. (Simpson). Volunteer wheat in Jewell and Republic Counties heavily infested. (Somsen).

CEREAL LEAF BEETLE

Oulema melanopa (L.)

Infested before June 30, 1965

Named counties infested July 1 through November 19, 1965

CEIR 15(48): 11-26-65

Eradicative treatment applied in Illinois

WIREWORMS - OKLAHOMA - Moderate to heavy and damaging wheat in spots in Washita County fields. (Okla. Coop. Sur.).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Averaged 20 per linear foot in wheat in Grandfield area, Tillman County. First report of season. (Okla. Coop. Sur.). TEXAS - Light to moderate locally on small grains in Kaufman County (Turney); light to heavy on small grain in Baylor County (Rummel).

WHEAT CURL MITE (Aceria tulipae) - KANSAS - None found in planted wheat; very light on volunteer wheat. No signs of mosaic noted. (Somsen).

GRASSHOPPERS - WYOMING - Fall adult survey for 1965 indicates total of 2,342,000 acres infested, compared with 1,156,000 in 1964. Acres infested by county as follows: Albany 3,000, Big Horn 25,000, Campbell 551,000, Converse 125,000, Crook 175,000, Fremont 20,000, Goshen 57,000, Hot Springs 35,000, Johnson 145,000, Natrona 160,000, Niobrara 226,000, Park 40,000, Platte 235,000, Sheridan 320,000, Washakie 100,000, and Weston 125,000. (Marks, PPC).

A WHITEFLY (Aleurocybotus occiduus) - ARIZONA - Sporadic infestations persist in Bermuda grass seed fields in Gila Valley area, Yuma County. (Ariz. Coop. Sur.).

PEA APHID (Acyrthosiphon pisum) - OHIO - Remains active after 7 freezes at South Charleston, Clark County; averaged 2-3 per sweep. (Holdsworth). Averaged 6 per sweep in Fairfield County alfalfa on November 11. (Rose). MICHIGAN - Adults and nymphs still present on small green shoots and foliage of alfalfa where frozen top growth provided protection in central area. (Dowdy). WISCONSIN - Decrease continues. Counts of about 1 per sweep still exist in few fields; alate viviparae still producing few nymphs. Alate males and an apparent apterate male present; mating continues. Eggs scarce in most fields; when present, found on green leaves near base of plants, indicating late season oviposition. (Wis. Ins. Sur.). MISSOURI - Counts low, 150-250 per 100 sweeps, in alfalfa checked in Cole, Texas, Christian, Barry and Jasper Counties. (Houser). OKLAHOMA - Ranged 8-50 per 10 sweeps in alfalfa in Wagoner, Sequoyah and Tillman Counties. Averaged 140 per 10 sweeps in Le Flore County; moderate in Cleveland County. (Okla. Coop. Sur.). NEW MEXICO - Remains light to moderate in Bernalillo, Chaves, Dona Ana and Eddy Counties. (Mathews, Heninger, Kloepfer). ARIZONA - Decreasing on alfalfa in Maricopa and Pinal Counties. (Ariz. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - ARIZONA - Decreased in nonresistant alfalfa in Maricopa and Pinal Counties. (Ariz. Coop. Sur.). NEW MEXICO - Light in many alfalfa fields in Dona Ana and Bernalillo Counties. (Heninger, Mathews). UTAH - Light on alfalfa in Box Elder and Weber Counties. (Knowlton). OKLAHOMA - Ranged 2-60 per 10 sweeps in alfalfa checked in Wagoner, Sequoyah, Le Flore and Tillman Counties. (Okla. Coop. Sur.). MISSOURI - Ranged 15-125 per 100 sweeps on alfalfa checked in Cole, Texas, Christian, Barry and Jasper Counties. (Houser). WISCONSIN - Oviparae present in low numbers; about 1 per 50 sweeps. Eggs averaged 2 per 20 stems in field near Brodhead compared with 298 per 20 stems in same field November 24, 1964. Egg viability questionable this season. (Wis. Ins. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - OKLAHOMA - Ranged 3-18 per 10 sweeps in alfalfa checked in Wagoner, Sequoyah and Le Flore Counties. Occasionally noted in wheat in east central area. (Okla. Coop. Sur.). OHIO - Remains active after 7 freezes at South Charleston, Clark County; averaged about 1 per 5 or 10 sweeps. (Holdsworth). Averaged 1 per 2-3 sweeps of alfalfa in Fairfield County November 11. (Rose).

PLANT BUGS - MISSOURI - Counts low in alfalfa in central, south central and southwestern districts. Counts per 100 sweeps: Lygus lineolaris 15-200, Adelphocoris rapidus 3-25, A. lineolatus zero. (Houser). NEW MEXICO - Lygus spp. per 25 sweeps in alfalfa by county: Bernalillo 5-12, Chaves and Eddy 8-12, Dona Ana 6-8. (Heninger, Kloepfer, Mathews).

STINK BUGS - NEW MEXICO - Occasional adult taken in alfalfa in southern Eddy County (Kloepfer); averaged 0-2 per 25 sweeps in Dona Ana County (Mathews).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Adults ranged 8-10 per 25 sweeps in southern Dona Ana County alfalfa (Mathews).

ALFALFA WEEVIL (Hypera postica) - PENNSYLVANIA - Few adults, several sizes of larvae, and larvae in cocoons observed in alfalfa in western area during late October. No eggs found in females; dark eggs found on alfalfa stems. (Udine). All stages found in alfalfa in Hershey area during late October and early November; eggs found in debris and stems. (Menusan). MISSOURI - Light, 1-10 larvae per 100 sweeps. Survey of counties bordering infested counties negative. Reported for first time in Maries County. (Houser, Peters, Thomas).

A SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata tenella) - NEW MEXICO - Counts per 25 sweeps in alfalfa by county as follows: in southern Dona Ana 8-10, and Bernalillo 5-10. (Mathews, Heninger).

WHITE GRUBS - ALABAMA - Phyllophaga spp. and Cotinis nitida larvae heavy in isolated spots in 40-acre field of reseeded crimson clover in Marengo County following volunteer summer crop of crabgrass. Areas where grubs heavy void of clover; probably major factor in plant destruction. Good clover stands present where grubs absent. (McQueen).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Continued increase in Yuma County alfalfa but decreased in Maricopa and Pinal Counties. (Ariz. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Decreased greatly in all alfalfa-growing areas. (Ariz. Coop. Sur.). NEW MEXICO - Light in alfalfa in southern Eddy and Bernalillo Counties. (Heninger, Kloepfer).

FRUIT INSECTS

Citrus Insect Situation in Florida - Mid-November - CITRUS RUST MITE (Phyllocoptruta oleivora) infested 77 percent of groves (norm 71 percent); 64 percent economic (norm 46 percent). Population is in high range and much above normal for November. Although gradual statewide decrease expected in December, many groves not recently sprayed will show increases. Infestations are of similar intensity on fruit and on leaves. All districts are high. TEXAS CITRUS MITE (Eutetranychus banksi) infested 29 percent of groves (norm 40 percent); 8 percent economic (norm 6 percent). Population is in low range and is below normal for November. Increase expected but few infestations will be important. All districts low, with north being highest. CITRUS RED MITE (Panonychus citri) infested 33 percent of groves (norm 52 percent); 3 percent economic (norm 25 percent). Population at lowest level in 15 years of record, not only for November but for any month. Of 102 survey groves not sprayed within past month, none had heavy infestation and only 3 had moderate infestation. All districts low, with west being highest. GLOVER SCALE (Lepidosaphes gloverii) infested 70 percent of groves; 11 percent economic. Population above average; little change expected. Highest district is south. PURPLE SCALE (L. beckii) infested 63 percent of groves; 9 percent economic. Population below average; slight increase expected, but no infestations will be heavy. Highest district is south. CHAFF SCALE (Parlatoria pergandii) infested 54 percent of groves; 9 percent economic. Population below average; little change expected. Highest district is south. YELLOW SCALE (Aonidiella citrina) infested 59 percent of groves; 12 percent economic. Population above average; little change expected. Highest district is south. BLACK SCALE (Saissetia oleae) present in 32 percent of groves. Although temporary increase will occur until cold weather arrives, population in all districts will be low. WHITEFLIES decreased to normal abundance and will continue at low level. APHIDS will be more numerous than normal through November. They will be a very limited problem. (W. A. Simanton (Citrus Expt. Sta., Lake Alfred)).

MEXICAN FRUIT FLY (Anastrepha ludens) - Prior to 1964, repeated pesticide applications were made along the Mexico-California border to keep Anastrepha ludens from becoming established in California and Baja California, Mexico. In 1964, a sterile male release technique developed by ARS scientists eliminated the need for the annual chemical control program. The flies are reared at the ARS laboratory at Mexico City and sterilized by immersing the pupae in a chemosterilant solution. Plant Pest Control personnel release only the sterilized adult males. Prior to release, they are permanently marked with a colored lacquer to make it possible to distinguish them from the wild male flies. Traps are employed throughout the release areas to determine overflooding ratios. To date, releases have been made in three areas, Tijuana, Ensenada and Tecate, Mexico. (PPC). The seventeenth sterile fly release of season made in Tijuana and the thirteenth in Ensenada, Baja California, Mexico. Over 92,000 sterile male flies involved. During week ending November 19, approximately 2,200 marked male flies recovered in traps throughout area. Number of native flies taken this season remains at 80. On California side of border, additional 15 color-coded sterile male flies trapped. Program collections now total 55 sterile flies and one native unmarked male specimen. (Cal. Coop. Rpt.).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Single adult found on unknown host at Ft. Pierce, St. Lucie County, October 25. (Hilliard). This is new county record. (Fla. Coop. Sur.). Females observed ovipositing on eggplants in South Miami-Kendall area, Dade County. (Swanson, Habeck).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - TEXAS - Heavy locally on peaches in Jefferson and Hardin Counties. (Meisch).

WALNUT SCALE (Aspidiotus juglansregiae) - CALIFORNIA - Medium on walnut nursery stock in Porterville, Tulare County. (Cal. Coop. Rpt.).

A LEAF ROLLER MOTH (Platynota stultana) - CALIFORNIA - Larvae medium on fruit of tokay grape at several locations in Lodi, San Joaquin County. (Cal. Coop. Rpt.).

PACIFIC SPIDER MITE (Tetranychus pacificus) - CALIFORNIA - Heavy on tokay grape vines and fruit in Lodi, San Joaquin County. (Cal. Coop. Rpt.).

APHIDS - WISCONSIN - Oviparous forms of Rhopalosiphum fitchii and Capitophorus eleagni and/or gillettei continued to feed and lay eggs on apple and Russian-olive respectively, despite subfreezing temperatures. Apparently affected by death of plant tissue rather than direct effects of temperature range. (Wis. Ins. Sur.).

TRUCK CROP INSECTS

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - Caused light damage to commercial celery at Sanford, Seminole, County. Damage ranged light to heavy on commercial cabbage at same location; confined to outer leaves, head not attacked. (Desin). ALABAMA - Larvae of this and Pieris rapae in equal numbers widespread on collards in Henry County home gardens. Controls on routine schedule necessary as 85-100 percent of plants constantly affected. P. rapae adults observed in large numbers throughout county, laying eggs. (Stephenson, Barfield et al.). OKLAHOMA - T. ni moderate and damaging leaf lettuce in Tulsa County. (Okla. Coop. Sur.). ARIZONA - No increase observed in lettuce fields of Yuma and Maricopa Counties. Controls necessary in some fileds. (Ariz. Coop. Sur.).

GRANULATE CUTWORM (Feltia subterranea) - NORTH CAROLINA - Heavy along one side of 4-acre field of carrots in Hyde County. Most feeding on foliage, but some occurred on top of roots. Very little economic damage occurred; harvesting prevented further damage. (Mount).

CARROT WEEVIL (Listronotus oregonensis) - WISCONSIN - Intensity of feeding injury about same as last season; few commercial growers noted some damage to carrots. (Wis. Ins. Sur.).

TURNIP APHID (Hyadaphis pseudobrassicae) - OKLAHOMA - Heavy on mustard and moderate on turnips checked in Tulsa County; light on spinach in Tulsa and Wagoner Counties. (Okla. Coop. Sur.). ALABAMA - Increasing on fall turnips over State. Heavy on turnips in Elmore County. (Hill et al.).

MELON APHID (Aphis gossypii) - ARIZONA - Light to moderate in Maricopa County lettuce. (Ariz. Coop. Sur.).

ONION THRIPS (Thrips tabaci) - OKLAHOMA - Moderate on young onion plants checked in Bixby area, Tulsa County. (Okla. Coop. Sur.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - OKLAHOMA - This species and Aculus lycopersici (tomato russet mite) caused severe damage to greenhouse tomatoes in Wewoka area, Seminole County. (Okla. Coop. Sur.).

SOWBUGS - OHIO - Infested tomato plants in greenhouse at Avon, Lorain County. Damaged potted seedlings as they emerged from soil. (Sleesman).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - ARIZONA - No moths collected from sex-lure traps in Yuma County this period; 2 larvae recovered from gin trash. (Ariz. Coop. Sur.). TEXAS - Light to moderate and widespread in El Paso County; locally heavy infestations also reported. (Texas Coop. Rpt.; Belcher, Dickson, Thomas). MISSOURI - Lint cleaner inspections negative in 8 gins in 2 counties. (Morgan).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Abnormally light in Yuma County cotton for time of year. (Ariz. Coop. Sur.).

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Adults plentiful in green cotton in Henry County where most stalks not destroyed. Field of upland cotton in Bibb County where stalks not killed by frost had 1 adult feeding per 4 squares. No controls applied to this field during year. (Stephenson, Barefield, Odom et al.).

COTTON APHID (Aphis gossypii) - ARIZONA - Moderate to heavy numbers continue to stain lint in many central cotton areas. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

ELM LEAF BEETLE (Galerucella xanthomelaena) - KANSAS - Found for first time in Stanton County. (Ford).

A NOCTUID MOTH (Melipotis acontioides) - FLORIDA - Larvae generally abundant on royal poinciana (Delonix regia) and causing slight to complete defoliation of many trees at Miami, Dade County. (Habeck).

A PRYAUSTID MOTH (Undulambia polystichalis) - FLORIDA - Larvae and pupae moderate to light on leatherleaf fern (Polystichum adjantiforme) at 2 locations in Pierson, moderate at De Land, and moderate at Orange City, all in Volusia County. (Roberts, Nov. 8,11).

A FERN CATERPILLAR (Callopistria floridensis) - FLORIDA - Larvae scattered and severely damaging stems and leaves of Boston compacta fern in nursery at Apopka, Orange County. (Musgrove).

APHIDS - ALABAMA - Buildup general and heavy on ornamental pyracantha throughout Mobile County. (Vickery). OKLAHOMA - Large dark species ranged light to heavy on young pine trees checked in Cherokee County; small woolly species noted on pine needles in same area. Other species continue damaging hibiscus and other ornamentals in many areas. (Okla. Coop. Sur.). UTAH - Myzocallis elegans numerous on elms at Logan, Cache County. (Knowlton).

A COREID BUG (Acanthocephala femorata) - NORTH CAROLINA - Large numbers observed on holly at Pamlico County location. (Perry, Mount).

BROWN SOFT SCALE (Coccus hesperidum) - CALIFORNIA - Heavy on redbud nursery stock locally in Porterville, Tulare County. (Cal. Coop. Rpt.).

FLORIDA RED SCALE (Chrysomphalus aonidum) - FLORIDA - Scattered and moderately damaging leaves of coontie fern in nursery at Rockledge, Brevard County. (Levan, Nov. 12).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - FLORIDA - Aedes infirmatus abundant and biting fiercely 12 miles north of Cedar Key, Levy County. Psorophora ferox and Mansonia perturbans also biting. (O'Berry, Nov. 13). LOUISIANA - Larval collections by Jefferson Parish Department of Mosquito Control for period ending November 18 contained Aedes sollicitans, Anopheles bradleyi, A. crucians, A. quadrimaculatus, Culex erraticus, C. pipiens quinquefasciatus, C. restuans, C. salinarius, and Culiseta inornata. Light trap collections decreased slightly during period with Culex salinarius predominant. Culiseta inornata numbers increased with cooler weather. (Stokes). ARKANSAS - Numbers continue high in delta areas where rain occurred. (Ark. Ins. Sur.).

HOUSE FLY (Musca domestica) - ARKANSAS - Continues problem in rural homes and in dairy and poultry buildings. (Ark. Ins. Sur.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Averaged 1,000 per head on cows and 25 per head on calves checked in Marshall County. (Okla. Coop. Sur.).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Averaged 6 per head on cattle in Marshall County; light in Comanche County. (Okla. Coop. Sur.).

HOG LOUSE (Haematopinus suis) - OKLAHOMA - Averaged 200 per head on hogs checked in Blaine, Dewey and Canadian Counties. Hogs being treated. (Okla. Coop. Sur.).

BROWN DOG TICK (Rhipicephalus sanguineus) - CALIFORNIA - Heavy in residence in Redwood City, San Mateo County, and medium in residence in Sacramento, Sacramento County. Warm, fall weather caused increase in reported occurrences in yards, on pets and in residences. Several reports of humans being bitten. (Cal. Coop. Rpt.). NEBRASKA - Several reports indicate heavy infestations on dogs and in some residences in Lincoln, Lancaster County. (Rhine).

PACIFIC COAST TICK (Dermacentor occidentalis) - CALIFORNIA - Medium in grass and hedge plants on school grounds in Gridley, Butte County. (Cal. Coop. Rpt.).

BLACK WIDOW SPIDER (Latrodectus mactans) - MICHIGAN - Earlier field collections reported in several northern counties of Lower Peninsula. (Wilson).

STORED-PRODUCT INSECTS

RICE WEEVIL (Sitophilus oryzae) - TEXAS - Heavy locally on ear corn in Brazoria County. (Teetes, Meisch). NEBRASKA - Infested lima beans in home basement in Lincoln, Lancaster County. (Rhine).

MEDITERRANEAN FLOUR MOTH (Anagasta kuehniella) - TEXAS - Heavy locally on shelled corn in Brazoria County. (Teetes, Meisch).

ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) - TEXAS - Heavy locally on ear corn in Brazoria County. (Teetes, Meisch).

APPLE MAGGOT (Rhagoletis pomonella) - PENNSYLVANIA - Larvae severe in stored apples in Lackawanna County; larvae full grown. (Gesell, Nov. 12).

CORRECTIONS

CEIR 15(31): 871, line 3 - NEW HAMPSHIRE - Dactynotus rudbeckiae should read Aphis rociadae deforming delphiniums ... . Det. by L. M. Russell.

CEIR 15(46): 1269 - Delete correction for CEIR 15(31): 871, line 3.

Comments on Names of Some North American Moths

Name changes are required for several moths, some of which are in the list of common names of insects (Bull. Ent. Soc. Amer., 6: 175-210, 1960). Zimmerman (Insects of Hawaii, 6: 119, 1958) treated Udea Guenée as a synonym of Oeobia Hübner; thus, the North American species listed by Munroe (Canad. Ent., 82: 222, 1960) as being members of Udea should have Oeobia as the valid generic name. For them the following new combinations are made: Oeobia rubigalis (Guenée), O. profundalis (Packard), O. inquinatalis (Zeller), O. sheppardi (McDunnough), O. itysalis (Walker), O. saxifragae (McDunnough), O. radiosalis (Möschler), O. washingtonalis (Grote), O. angustalis (Barnes and McDunnough), O. galactalis (Barnes and McDunnough), and O. torvalis (Möschler).

Study of the type of Eucatoptus lycopersicella Walsingham, 1897 revealed that it is conspecific with Phthorimaea lycopersicella Busck, 1928. Busck's lycopersicella is the type-species of Keiferia Busck, so the correct combination for the Walsingham name is Keiferia lycopersicella (Walsingham), new combination.

The generic name Phthorimaea has been used for a wide array of gelechiids, none of which are congeneric with operculella (Zeller), the type-species. However, operculella appears to represent a group worthy of generic recognition as has been pointed out by Povolny (Cas. Cs. Spol. ent., 61: 338, 1964). In the future we will use the combination Phthorimaea operculella (Zeller).

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LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commiralis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
FLORIDA																								
Gainesville 11/16			BL	1					1													2		
GEORGIA																								
Tifton 11/11-17	50-75	0.50	BL							0	51							0	0					
MISSISSIPPI																								
Stoneville 11/12-18	32-78	0.28	2BL	578					603		2						50			361	533	1642	1	
TENNESSEE (Counties)																								
Cumberland 11/9-15				23							18					4	2			6				
Knox 11/9-15				9							5					1				3		1		
TEXAS																								
Waco 11/13-19			BL	6					105		23					69	14			32	28	11	5	

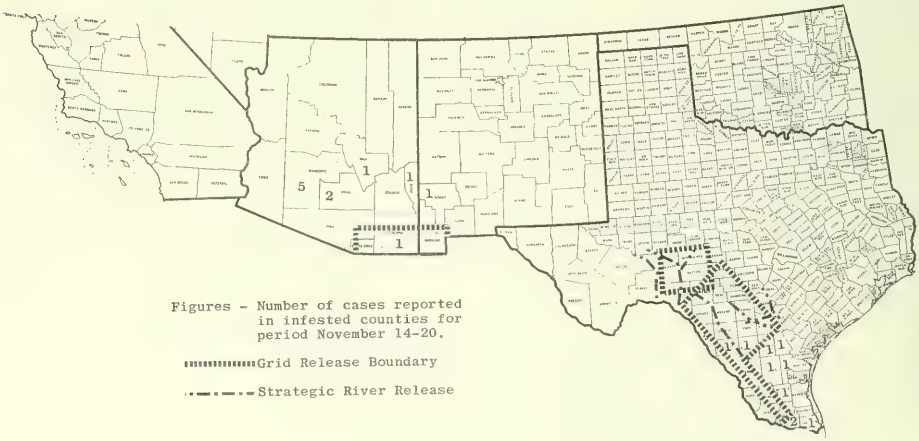
STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period November 14-20, a total of 24 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Hidalgo 2, and 1 each in Atascosa, Cameron, Live Oak, Brooks, Dimmit, Jim Wells, La Salle, Duval, Comal, Medina and McMullen; NEW MEXICO - Grant 1; ARIZONA - Maricopa 5, Pinal 2 and 1 each in Gila, Cochise and Greenlee. The Republic of Mexico reported 53 cases: Territorio sur de Baja California 3, Sonora 13, Chihuahua 17, Coahuila 5, Nuevo Leon 3, Tamaulipas 12. Sterile screw-worm flies released: Texas 19,582,250, New Mexico 4,884,000, Arizona 14,908,000, and Mexico 56,652,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	108	6213	273	6968	39.56	89.16
1964	30	230	219	5991	13.69	3.83
1965	24	927	179	4661	13.40	20.10
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	278	4128	100	1933	2.78	213.55
1965	70	5112	42	2065	166.66	247.55

Feasibility Survey - During this period, 141 cases were identified in Mexico south of the Barrier Zone, as follows: Sinaloa 6, Tabasco 3, Nyarit 1, Guerrero 16, Puebla 3, Veracruz 29, Jalisco 22, Oaxaca 3, Chiapas 3, Aquascalientes 3, San Luis Potosi 20, Yucatan 1, Durango 26, Michoacan 3, Zacatecas 1, Colima 1.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 December 3, 1965 Number 49

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

CHINCH BUG fall survey in Illinois shows populations much lower and area of economic infestation considerably smaller than in 1964. (p. 1299).

First ALFALFA WEEVIL fall adults collected in Indiana; first eggs found in early November but no hatching observed. (p. 1300).

PINK BOLLWORM male moths still taken in California; but no females trapped or detected. (p. 1301).

BRONZE BIRCH BORER serious in ornamental birch in Minnesota; heavy in forest grown birch in some areas. (p. 1301).

DETECTION

New State records include TWIG PRUNER (*Elaphidion villosum*) in Delaware and a LACE BUG (*Stephanitis takeyai*) in Rhode Island. (p. 1302).

CORRECTIONS

See page 1303.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1305).

Hawaiian Insect Notes. (p. 1306).

Status of Brown-tail Moth in the United States - CORRECTED Map. (p. 1307).

Reports in this issue are for week ending November 26 unless otherwise indicated.

WEATHER OF THE WEEK ENDING NOVEMBER 29

HIGHLIGHTS: (1) Record California rains end. (2) Severe winter storm, upper Great Lakes. (3) Continued dry, much of Plains, southern Rockies. (4) "Typical" winter week of storms, contrast, and change.

STORMS: Renewed heavy rains came to Los Angeles on Monday but gradually diminished as they moved inland and ended on Thursday. Downtown Los Angeles received an additional 3.5 inches on Monday, bringing the total in less than 2 weeks to 9.34 inches. The previous November record was 6.53 inches (for 30 days) and the monthly normal is only 1.08 inches. Storm rainfall was near 15 inches in the mountains lying to the northwest, north, and northeast of the Los Angeles Basin. Damage was heavy due to flooding, washouts, and mudslides with at least 4 deaths attributed to the storm. Press reports indicate that a tornado occurred at Pomona, just east of Los Angeles. If confirmed, this would be very unusual for that area. As the storm moved northeastward, more than 4 inches of rain fell in 3 days at Flagstaff, Arizona. Snow blocked the passes in the Sierras and was heavy at higher elevations of the Cascades and Olympic Mountains to the north. Snow in variable amounts came to the Rockies also.

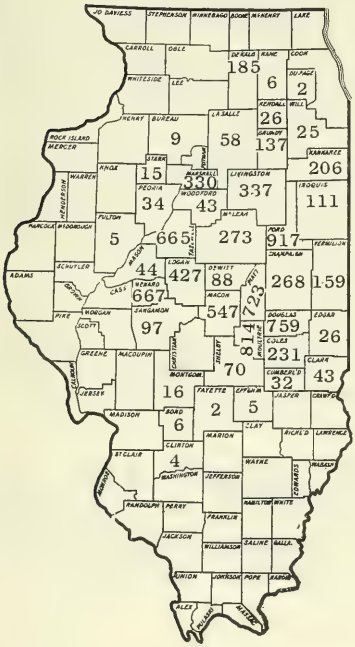
At midweek the storm pattern moved east of the Divide as a very deep Low (974 mb) moved northeastward through Wisconsin. Up to 2 feet of snow fell in northern Minnesota and the Lake Superior region. Winds up to 50 m.p.h. drifted the snow and temperatures dropped to the 10°-15° range in the wake of the storm making this the first "blizzard" of the winter. Lighter snow fell in the northern Plains and from the eastern Great Lakes to northern New England. South of the narrow snow belt, there was rain, glaze, or sleet. There were thunderstorms from Illinois and Kentucky to Pennsylvania plus late-season tornadoes in Illinois, Indiana, and Ohio. There was one fatality in a storm-wrecked trailer house in Kentucky. Weekly precipitation was light or missing from Texas northward to the Canadian Border and light to moderate over the eastern third of the Nation. Central portions of the Northeast drought area received up to 1 inch.

TEMPERATURE: Weekly temperatures showed warming over the East but substantial cooling over the west and central portions compared with the previous week. Compared to normal, there were strong contrasts ranging from 12° above normal in north Texas to 12° below normal in northern Montana. It was at least the 4th consecutive mild week in the Colorado-New Mexico-Oklahoma area. Most of the week was very warm from Kansas east and southward with temperatures reaching into the 70's as far north as Illinois. Evansville, Indiana, reached a remarkable 78° on Friday. By the weekend, cold Canadian air had reached the gulf and the Georgia coasts with near-freezing temperatures in southeastern Georgia. An overdue freeze (2 to 3 weeks later than the mean date) came to the Panhandle of Texas. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

CHINCH BUG (Blissus leucopterus) - ILLINOIS - Annual fall survey completed for 1965. Populations much lower and area of economic infestations considerably smaller than in 1964. In central district, averaged 285 per square foot compared with 860 in 1964; in east district, averaged 389 per square foot compared with 2,502 in 1964. Accompanying map shows area surveyed and average number of B. leucopterus per square foot in each county. No very severe or severe infestations found. Moderate numbers found in Tazewell, Ford, Menard, Macon, Piatt, Moultrie and Douglas Counties; infestations light in Marshall, Livingston, McLean, Logan and Champaign Counties. Infestations noneconomic in other counties surveyed. (Ill. Ins. Rpt.).

Chinch Bug Survey in Illinois - Fall 1965



Figures - Average number of bugs per square foot

GREENBUG (Schizaphis graminum) - OKLAHOMA - Ranged 1-4 per linear foot in wheat checked in Payne, Noble, Kay, Woods and Lincoln Counties; light in Cleveland County. (Okla. Coop. Sur.). MISSOURI - Damaging less than 2 percent of wheat in several fields in Clay and Jackson Counties. Damage limited to low spots and margins. Ranged 130-300 per row foot in damaged areas, 10-25 per row foot in remainder of field. (Thomas).

ENGLISH GRAIN APHID (Macrosiphum avenae) - OKLAHOMA - Ranged 0-12 per linear foot of wheat in north central area; present in 50 percent of fields checked. (Okla. Coop. Sur.).

APPLE GRAIN APHID (Rhopalosiphum fitchii) - WASHINGTON - Nymphs and adults heavy in winter wheat and barley at Quincy, Grant County, October 29. (Hagel).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Ranged 0-10 per linear foot in wheat in northwest and north central counties; light in Mayes County. (Okla. Coop. Sur.).

AN APHID (Rhopalosiphum padi) - OKLAHOMA - Ranged 1-27 per linear foot in wheat in Payne, Noble, Kay, Grant, Garfield, Woods, Alfalfa and Lincoln Counties, and in barley and wheat in Major County. Present in all but one field checked. (Okla. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - OKLAHOMA - Continues feeding on wheat in Woodward County. (Okla. Coop. Sur.).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Present in wheat in Noble, Kay, Woods and Alfalfa Counties, and in barley in Major County. Ranged 1-20 per linear foot. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - INDIANA - First fall adults collected on alfalfa in southern Harrison County October 14. Sticky trap collections indicate flights peaked October 28 to November 4. Adults per 100 sweeps after dark averaged: 1.5 October 14; 9 on October 28; 39 on November 4; 95 on November 11; 35 on November 18. First eggs found November 11; ranged 6-38 per square foot; ranged 3-52 per square foot November 18. No hatching observed to November 26. (Wilson, Hintz). Adults ranged 4-10 per 10 sweeps (average of 6.8) during early afternoon of November 19 in field in southern Harrison County; field on south-facing slope. In adjacent flat field of equal growth, adults averaged 3 per 10 sweeps (Huber). OHIO - Surveys completed June 11 show 29 counties infested in 1965; now present in 77 of 88 counties. This greatest advance since first reported in 1960. Additional economic surveys showed alfalfa losses due to H. postica at 7 million dollars this summer. Estimate includes losses of yield, stand and control costs. (Niemczyk, Rose). NEW MEXICO - Averaged 0-1 larva per 25 sweeps in Bernalillo County alfalfa checked south of Albuquerque. (Heninger).

PEA APHID (Acyrthosiphon pisum) - WASHINGTON - All stages (including sexuals) infesting forage and seed alfalfa. Average counts per sweep: 2.1 at Mabton; 22 at Pasco; 13 (0-50) at Walla Walla. Egg deposition occurred past 2 weeks. Aphidius pulcher (a braconid) per 100 sweeps: Mabton 11, Pasco 37, Walla Walla 107 (range 0-400) October 28. (Halfhill). UTAH - Moderate in uncut alfalfa in Salt Lake and Weber Counties. (Knowlton). NEW MEXICO - Moderate in alfalfa near Texico, Curry County. (Kloepfer). OKLAHOMA - Averaged 15 per 10 sweeps in alfalfa in Grant County; light to moderate in Cleveland County. (Okla. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - UTAH - Numbers low in alfalfa in Salt Lake and Weber Counties. (Knowlton). OKLAHOMA - Averaged 175 per 10 sweeps in Grant County alfalfa; moderate in Cotton County. (Okla. Coop. Sur.).

FRUIT INSECTS

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Damage becoming more noticeable as pecan crop harvested. Short crop reported in Bibb County with additional 10 percent reduction attributed to diseases and shuckworms. L. caryana and Curculio caryae caused some losses in Henry and Covington Counties. One Henry County buyer reports C. caryae worse than in several years. (Odom, Linder, Stewart).

FLATHEADED APPLE TREE BORER (Chrysobothris femorata) - OKLAHOMA - Infesting pecan trees in Tulsa County. (Okla. Coop. Sur.).

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Medium on persimmon fruit locally in Clovis, Fresno County; medium to heavy on almond trees locally in Chico, Butte County. (Cal. Coop. Rpt.).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - FLORIDA - Upward trend noted on peaches at Gainesville (Kuitert) and in Monticello area (Phillips).

YELLOW SCALE (Aonidiella citrina) - FLORIDA - Adults general and moderately damaging leaves of budded sweet orange trees in nursery at Gotha, Orange County. (Ware, Nov. 16).

POTATO APHID (Macrosiphum euphorbiae) - CALIFORNIA - This species and Aphis gossypii medium on citrus nursery stock in Grover City, San Luis Obispo County. (Cal. Coop. Rpt.).

A WEEVIL (Brachyrhinus cribricollis) - CALIFORNIA - Adults medium on olive trees and soil on ranch in Oroville, Butte County. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

DIAMONDBACK MOTH (Plutella maculipennis) - TEXAS - Moderate to heavy locally on mustard and turnip greens in Fort Bend County. (Teetes, Meisch).

VARIEGATED CUTWORM (Peridroma saucia) - OHIO - Damaged tomato fruits in greenhouse at Wooster, Wayne County. Deep holes in tomatoes; larvae found at bases of plants during day. (Rings).

CABBAGE APHID (Brevicoryne brassicae) - ALABAMA - Fall buildup of this species and Hyadaphis pseudobrassicae on collards, mustard, turnips and rape in home gardens continues; some heavy infestations observed in Lee, Morgan and Tallapoosa Counties. (Barwood).

GREEN PEACH APHID (Myzus persicae) - CALIFORNIA - Heavy on eggplant in Clovis, Fresno County; nymphs medium on leaves of Brussels sprouts in Santa Cruz, Santa Cruz County. (Cal. Coop. Rpt.).

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) - OHIO - Most common pest observed in several greenhouses at Avon, Lorain County. Moderate to heavy on tomato crop in all greenhouses checked. Generally, nymphs heavy on undersurfaces of leaves; moderate adult numbers indicated potential population increases. (Rose).

ONION MAGGOT (Hylemya antiqua) - CALIFORNIA - Larvae heavy in onion bulbs locally in Martinez, Contra Costa County. (Cal. Coop. Rpt.).

A LEAF MINER FLY (Liriomyza sp.) - OHIO - Common on tomatoes in greenhouses at Avon, Lorain County. In one greenhouse, some plants with up to 25 percent of leaves infested; other infestations considerably lighter. (Rose).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Locally heavy on tomatillo plants in Chino, San Bernardino County. (Cal. Coop. Rpt.).

SPIDER MITES (Tetranychus spp.) - CALIFORNIA - Adults heavy on tomato and nightshade in nursery in Upland, San Bernardino County. (Cal. Coop. Rpt.). TEXAS - Heavy locally on greenhouse tomatoes in Atascosa County. (Duke).

BULB MITE (Rhizoglyphus echinopus) - CALIFORNIA - Heavy in 5 acres of mature celery in Arroyo Grande, San Luis Obispo County; larvae and adults on roots and in soil. Large numbers of Histiostoma feroniarum (an anoetid mite) also present. (Cal. Coop. Rpt.).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Male moths still taken in sex-lure traps in Bard, Imperial County, and Blythe, Riverside County. Some males also taken in light traps. No females trapped or detected in State. Single larva collected at Bard November 4. All means of detection and survey currently in use in cotton-growing areas with particular emphasis on desert area along Colorado River. (Cal. Coop. Rpt.). MISSOURI - During period October 25-29, inspection of 447 bushels of gin trash and lint cleaners at 5 gins in Pemiscot County and 9 gins in Dunklin County negative. (Morgan).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

BRONZE BIRCH BORER (Agrilus anxius) - MINNESOTA - Total of 21 nurseries checked. Infestations varied 0-25 percent; 221 trees found infested and marked for roguing. Species very serious in ornamental birch in State. Forest grown birch in some areas heavily infested. Control in nursery grown birch successful when insecticide and pruning and/or roguing practices are followed. (Minn. Ins. Rpt., Nov. 19).

TWIG PRUNER (Elaphidion villosum) - DELAWARE - Heavy in maple in Laurel, Sussex County, October 15. Det. by D. MacCreary and P. Burbutis. This is first report from State. Adults emerging in laboratory. (Burbutis).

A TWIG BEETLE (Pityophthorus sp.) - CALIFORNIA - Occurring in medium larval populations in Sitka spruce in Orick, Humboldt County. (R. E. Dresser, CDF).

A FLEA BEETLE (Altica litigata) - FLORIDA - Adults severely damaged leaves of crapemyrtle in nursery at Plymouth, Orange County. (Musgrove, Nov. 9).

PEACH TREE BORER (Sanninoidea exitiosa) - ALABAMA - This pest, Synanthedon pictipes and Aspidiotus perniciosus, heavy on flowering peach trees in Henry and Lee Counties. (Stephenson et al.).

APHIDS - NEBRASKA - Longistigma caryae continues moderate on oaks in Lincoln, Lancaster County. (Rhine). OKLAHOMA - Lachnus salignus heavy on weeping willow in Mangum area, Greer County. (Okla. Coop. Sur.). NEW MEXICO - Cinara tujafilina light to heavy on arborvitae in residential and business areas of Albuquerque, Bernalillo County; honeydew problem on walks where infestations heaviest. Cinara sp. light to heavy on ponderosa pine in residential and business areas in Albuquerque. Unspecified species light to very heavy on various types of willows in Santa Fe area. So heavy on few trees that bark on branches not visible. Large amounts of honeydew falling from trees. Another species light to very abundant on weeping willow in same area. (N. M. Coop. Rpt.). UTAH - L. salignus very numerous on willows in Provo-Payson area, Utah County. (Knowlton, Barlow). Large numbers of L. salignus entered numerous Salt Lake and Utah County homes, staining carpets and floors when crushed; numerous on willows in Utah, Weber and Salt Lake Counties. (Knowlton). CALIFORNIA - Neophyllaphis podocarpi adults heavy on podocarpus nursery stock at Oakland, Alameda County. L. salignus heavy on willows at location in Clear Lake Oaks, Lake County. Macrosiphum rosae locally heavy on rose bushes in Willows, Glenn County. (Cal. Coop. Rpt.).

A LACE BUG (Stephanitis takeyai) - RHODE ISLAND - Common on Pieris japonica in ornamental planting in Providence, Providence County, September 27, 1965. Also collected on P. japonica in large commercial nursery in Middletown, Newport County, October 27 by T. Robbins. Det. by J. L. Herring. Heavy infestations also observed in numerous parts of State. This is a new State record. (Mathewson).

WHITE PEACH SCALE (Pseudaulacaspis pentagona) - FLORIDA - Adults damaged leaves of Ligustrum sp. in nursery at Crystal River, Citrus County. (Williams, Miller, Nov. 17).

AN ARMORED SCALE (Diaspis boisduvalii) - CALIFORNIA - Medium on orchids in orchid house in Soquel, Santa Cruz County, and in orchid house in Vista, San Diego County; medium in orchid house in San Diego. (Cal. Coop. Rpt.).

MEALYBUGS - CALIFORNIA - Adults of Radicoccus kelloggi medium on roots of Festuca ovina (sheep fescue) along highway south of Mount Shasta, Siskiyou County. Rhizoecus leucosomus adults medium on roots of Carex sp. (sedge) and in soil near Gold Lake, Sierra County. (Cal. Coop. Rpt.).

A THRIPS (Frankliniella minuta) - CALIFORNIA - Adults heavy in chrysanthemum flowers in La Grange, Stanislaus County. (Cal. Coop. Rpt.).

A GALL MIDGE (Feltomyia pisonifolia (Felt)) - FLORIDA - Originally carried in CEIR 15(41): 1164 as Uleella pisonifolia Felt; however, since this publication, it has been discovered that the species now belongs in the genus Feltomyia. Galls taken on leaves of Pisonia aculeata on Bear Lake Road, Everglades National Park, by F. C. Craighead on March 3, 1961. Midges emerged April 3, 1961. Det. by R. J. Gagné. Species described in 1912 from Pisonia nigricans on St. Vincent Island, British West Indies, the only locality from which it has been previously known. As far as can be determined, nothing is known concerning biology and economic importance of F. pisonifolia. (ARS).

CYCLAMEN MITE (Steneotarsonemus pallidus) - CALIFORNIA - Heavy on acuba nursery stock locally in Colma, San Mateo County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - LOUISIANA - Larval collections by Jefferson Parish Department of Mosquito Control for period ending November 24 contained: Anopheles quadrimaculatus, Culex pipiens quinquefasciatus, C. salinarius, Culiseta inornata. Culex salinarius predominant in light trap collections, but Culiseta inornata increased. Landing rate counts increased to 20 per minute. (Stokes).

CATTLE LICE - UTAH - Use of systemic insecticides for louse and grub control about doubled in Uintah County as compared with fall 1964. (Lindsay, Knowlton). Some controls applied on beef cattle in Salt Lake County. (Rose, Knowlton). Cattle rubbing at Willard, Box Elder County. (Knowlton).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Moderate on cattle in Cotton County. (Okla. Coop. Sur.).

BLACK WIDOW SPIDER (Latrodectus mactans) - ARIZONA - Recent rains caused spiders to enter many homes in Phoenix area, Maricopa County. (Ariz. Coop. Sur.).

STORED-PRODUCT INSECTS

Stored-Products Insects in Alabama - Cadra cautella, Sitotroga cerealella and Plodia interpunctella larvae severe in warehouse containing several thousand tons of peanuts in Henry County; other insects also involved. Larvae congregating in rafters, plates, elevators and elevator belts; average 35 per square foot. Top area of peanuts, and all interior exposed areas of warehouse completely encased in webbing. Adult moths extremely heavy; leaving building through doors, windows and other openings; alighting on scattered peanuts around warehouse. Millions of adults dead around and in warehouse as 30 to 60-day control schedule applied but infestation continues uncontrolled. Nearby feed milling operation on warehouse grounds most likely source of infestation as extreme care exercised in cleaning up warehouse prior to storage of 1965 peanut crop. (Hartzog et al.).

BENEFICIAL INSECTS

Beneficial Insects in New Mexico - Counts per 25 sweeps in alfalfa as follows by county: southern Dona Ana - lacewings 6-8, lady beetles 4-6, nabids 305 (Mathews); Chaves - lacewings 12-14, lady beetles 3-5, nabids 8-12 (Kloepfer).

MISCELLANEOUS INSECTS

ELM LEAF BEETLE (Galerucella xanthomelaena) - CALIFORNIA - Single Frick trap baited with ammonium carbonate lure collected over 250 adults in Tuolumne County during summer. (Cal. Coop. Rpt.).

AN EARTHWORM MITE (Fuscuropoda agitans) - CALIFORNIA - Heavy in earthworm beds locally in Reedley, Fresno County. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 15(48): 1291 - A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Second sentence should read: "Females observed ovipositing on eggfruit (Pouteria campechiana) in South Miami-Kendall area, Dade County. (Swanson, Habeck)."

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap	Agrotis ipsilon (black cutworm)	Carpocapsa pomonella (codling moth)	Chorizagrotis auxiliaris (army cutworm)	Estigmene acrea (salt-marsh caterpillar)	Faronta diffusa (wheat bud armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Loxostege commixtalis (alfalfa webworm)	Loxostege similalis (garden webworm)	Loxostege sticticalis (beet webworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Prodenia ornithogalli (yellow-striped armyworm)	Protoparce quinquemaculata (tomato hornworm)	Protoparce sexta (tobacco hornworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Trichoplusia ni (cabbage looper)	Crops
GEORGIA																								
Tifton 11/18-24	35-72	0.70	BL							0	16							0	0					
SOUTH CAROLINA																								
Charleston 11/15-21	33-78	zero	BL	11			0		7	0	0					0	0	0	0	9		4	0	
Charleston 11/22-28	38-76	0.26	BL	13			0		5	0	0					0	0	0	0	14		5	0	
TEXAS																								
Waco 11/20-26			BL	5				1	58							34	9			14	30	12	1	

BL - blacklight
I - incandescent
MV - mercury vapor
O - other

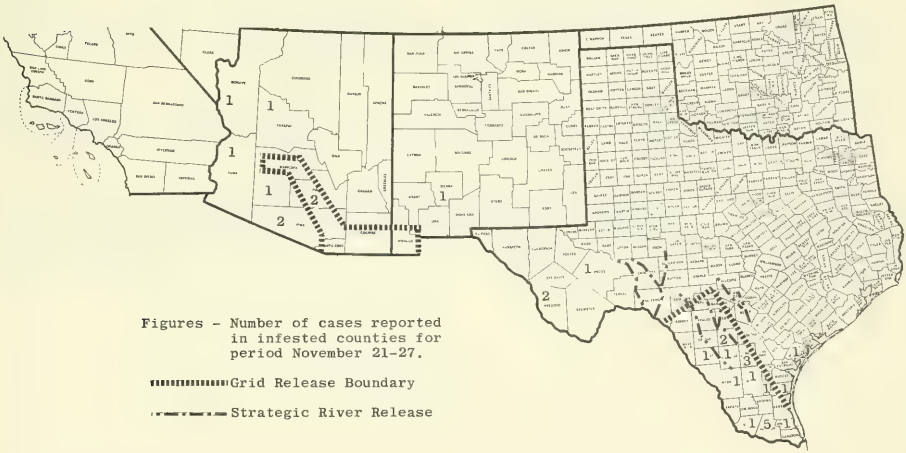
STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period November 21-27, a total of 31 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Frio 2, Hidalgo 5, McMullen 3, Presidio 2, and 1 each in Dimmit, Duval, Jim Wells, Kleberg, La Salle, Pecos, Refugio, Starr, Webb and Willacy; NEW MEXICO - Sierra 1; ARIZONA - Pinal 2, Pima 2 and 1 each in Mojave, Yavapai, Yuma and Maricopa. The Republic of Mexico reported 154 cases: Territorio sur de Baja California 50, Sonora 36, Chihuahua 24, Coahuila 7, Nuevo Leon 7, Tamaulipas 30. Sterile screw-worm flies released: Texas 16,050,250, New Mexico 3,280,000, Arizona 6,620,000, and Mexico 58,176,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	92	6305	150	7118	61.33	88.57
1964	6	236	73	6064	8.21	3.89
1965	31	968	165	4773	18.78	20.28
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	3	4131	14	1947	21.42	212.17
1965	168	5280	52	2117	323.07	249.40

Feasibility Survey - During this period, 267 cases were identified in Mexico south of the Barrier Zone, as follows: Sinaloa 9, Tabasco 5, Nayarit 1, Guerrero 33, Puebla 7, Veracruz 53, Jalisco 40, Oaxaca 8, Chiapas 9, Aguascalientes 1, San Luis Potosi 28, Yucatan 12, Durango 45, Michoacan 16, Zacatecas 0, Colima 0.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



HAWAIIAN INSECT NOTES

The following notes on Hawaii insect conditions were presented at the meeting of the Hawaiian Entomological Society held in November 1965.

A specimen of a CERAMBYCID BEETLE (Doius meridianus Matsushita), taken in light trap at University of Hawaii campus in Manoa Valley, Honolulu, on November 5, 1965, is probably second record of this beetle in State. The species was first recorded from Hawaii in 1952 by E. C. Zimmerman from 2 specimens collected at Alewa Heights, Oahu, in July and August 1951. This beetle apparently has not been collected since. D. meridianus is known to occur in Formosa and the Ryukyu Islands. (J. W. Beardsley).

Specimens of an OEDEMERID BEETLE (Pselaphanca apicata (Fairmaire)) were collected on Oahu in June 1964. Det. by R. H. Arnett. Original record was based on 3 specimens, but a long series is now on hand, taken mostly from light trap catches. (J. W. Beardsley).

A PUNCTURE-VINE STEM WEEVIL (Microlarinus lypriformis (Woll.)) - Larvae and pupae were found in stems of puncture-vine (Tribulus sp.) on October 25, 1965, at Kawela, Molokai, but neither adults nor immature forms were found elsewhere on the island. This is first record of this species from Molokai, indicating the weevil has recently extended its range over 20 miles of water that separate this new locality from Lahaina, Maui, where the species was reported in CEIR 15(44): 1234. (F. Bianchi). M. lypriformis was reported at Sandy Beach, Oahu, from Tribulus cistoides by J. Kajiwara on October 6, 1965. This is approximately 25 miles from the nearest release area on Ohau, which is Barbers Point. (C. J. Davis).

PACIFIC DRYWOOD TERMITE (Zootermopsis angusticollis (Hagen)) infested Douglas-fir lumber shipped in from a location on the Pacific coast. The material was stored in the lumberyard of a commercial establishment near Honolulu. Investigation revealed the lumber had arrived on October 20, 1965, and more specimens were found. The infested lumber was fumigated and a later check indicated treatment was very effective. (D. E. Hardy). This termite was previously discovered in Hilo, Hawaii, about one year ago when eradicative measures were taken. This treatment was apparently successful as there have been no further reports of the species in that area. (C. J. Davis).

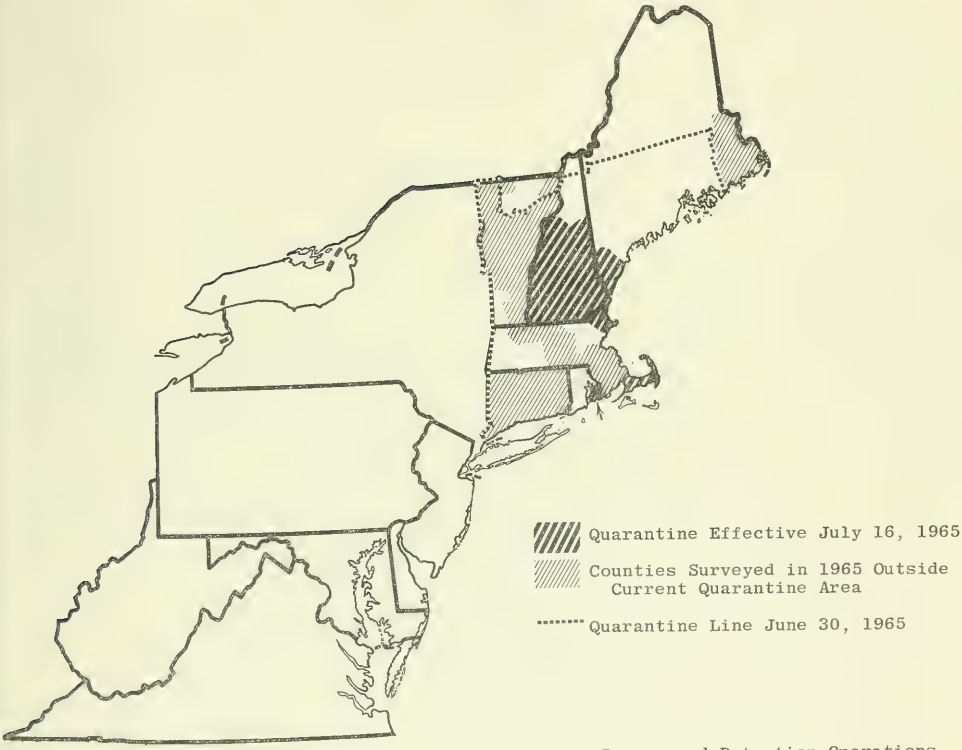
A CERAMBYCID BEETLE (Phoracantha semipunctata F.) is now apparently well established on Oahu. One specimen was found in Queens Hospital on October 11 and another at the air freight warehouse at Hickam Air Force Base on October 28. (E. S. Shiroma).

A specimen of a BUPRESTID BEETLE (Chrysobothris octocola LeC.) was collected at Waimea, Hawaii, on October 13, 1965, by A. Kawanishi and B. Hu. This is a new record for the island of Hawaii. This species was first reported in June 1960 from the Waianae coastal area of Oahu. (E. S. Shiroma).

ORIENTAL FRUIT FLY (Dacus dorsalis Hendel) males were observed on October 25 in large numbers on blossoms of cannon-ball-tree (Couroupita guianensis) and on blossoms of Viriesia heliconioides (a small herbaceous plant) at Foster Gardens. Males were moving over flower petals apparently lapping or sponging the surfaces. (W. C. Mitchell).

BROWN-TAIL MOTH

Nygmia phaeorrhoea (Donovan)



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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 December 10, 1965 Number 50

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

GREENBUG increasing on alfalfa in Oklahoma. CHINCH BUG noneconomic in 45 counties surveyed in Kansas. (p. 1311).

SPOTTED ALFALFA APHID and PEA APHID building up in alfalfa in New Mexico. (p. 1312).

PINK BOLLWORM larvae found as far west as Texas Hill in Arizona; moths taken in sex-lure traps on Yuma Mesa. (p. 1317).

DETECTION

ALFALFA WEEVIL (*Hypera postica*) new to several Missouri counties. (p. 1312). New parish records in Louisiana include: SWEETPOTATO WEEVIL (*Cylas formicarius elegantulus*) in Bossier Parish (p. 1313), PINK BOLLWORM (*Pectinophora gossypiella*) in Avoyelles Parish (p. 1314) and WHITE-FRINGED BEETLES (*Graphognathus* spp.) in St. Helena Parish (p. 1316).

CORRECTIONS and ADDITIONAL NOTES

See page 1317.

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1318).

Cooperative Survey Entomologists. (Revised December 10, 1965). (p. 1319).

Reports in this issue are for week ending December 3 unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

December 1965

Temperatures are expected to average below seasonal normals over the northeastern quarter of the Nation. Above normal averages are anticipated in the western third of the Nation as well as in the Gulf and South Atlantic Coastal States. Elsewhere near normal temperatures are in prospect. Precipitation is expected to exceed normal in a broad belt extending from southern portions of the Western Plateau through the southern half of the Nation. The far Northwest is also expected to receive above normal precipitation. Subnormal totals should be confined to portions of the Northern and Central Plains while near normal amounts are called for in unspecified areas.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

WEATHER OF THE WEEK ENDING DECEMBER 6, 1965

HIGHLIGHTS: (1) Quiet, dry, fair week in most areas. (2) Freezing in South. (3) Fog-stratus in Utah area, central California.

TEMPERATURES: December opened very quietly as high barometer, dry air, and clear skies prevailed during most of the week. Mild Pacific air dominated the northern Rockies and Great Plains with weekly average temperatures 8° to 12° above normal from central Montana to western Kansas. Dry air stalled over California's Central Valley and northern Utah's Great Basin area produced average temperatures near or slightly below normal and a persistent fog-stratus condition. Temperatures averaged from 8° to 15° cooler than the previous week from New Mexico east and northeastward to Florida and New England and were as much as 6° to 9° below normal in Alabama and northern Florida. On several occasions, temperatures in the northern Florida area were cooler than those in Nebraska and the Dakotas. To show the contrast, Tallahassee was below freezing for 3 successive mornings while Valentine, Nebraska, was 61° on Tuesday and Rapid City, South Dakota, reported 75° on Saturday.

FREEZING: Temperatures below 32° came to the northeast gulf coast and northern Florida locations for the first time. These first freezes were not unusually early for that area. Freezing also came to the Big Bend area of Texas and to all of New Mexico.

PRECIPITATION: It was a dry week in most areas with totals as much as 1 inch only in northwestern coastal areas and in east central Texas where College Station reported 5 inches in 24 hours. Scattered showers or light snows east of the Mississippi were generally very light and the drought intensified in the Northeast drought area. This was the 5th consecutive week with dry weather in a strip of the Great Plains extending from Oklahoma and the Texas Panhandle northward to Canada.

SNOWFALL: Snow during the week was limited to mountains in the Pacific Northwest and light amounts from the Great Lakes to New England and at higher elevations in the Appalachian Chain. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER (Ostrinia nubilalis) - MISSOURI - Fall abundance survey completed; borers averaged 145.2 per 100 stalks. Infested stalks increased 5.2 percent compared with 1964. Average number of borers per 100 stalks decreased 12.2 compared with 1964, despite more than 2-fold increase in 3 districts in northern third of State. Reduction in statewide average due to 60-percent decrease in ninth district, a decrease of 444 borers per 100 stalks. This due in part to more late corn found in district in 1964 than 1965; this late corn heavily infested with third-generation larvae. Infestations heaviest in following counties: Atchison, Holt and Nodaway (northwest); Linn and Randolph (north central); Clark, Knox and Marion (northeast); Dunklin, New Madrid and Stoddard (southeast). (Houser).

GREENBUG (Schizaphis graminum) - ARKANSAS - Ranged 15-20 per linear foot of wheat in Johnson County. (Ark. Ins. Sur.). OKLAHOMA - Increasing; counts per linear foot of wheat by counties as follows: 2 in Kiowa, Tillman, and Jackson; 1-2 in Carter and Jefferson; 5 in Caddo and 1 in Grady. Ranged 25-30 per linear foot in field not infested 2 weeks ago in Perkins area, Payne County. (Okla. Coop. Sur.). KANSAS - Continues low in southeast and south central districts; 0-10 per linear foot, with less than 10 percent of wheat infested in field checked. Trace infestations found in southwest and northwest districts. (Simpson).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Light to moderate in barley in northern Eddy County. (Campbell). OKLAHOMA - Ranged 3-10 per linear foot in wheat in Jefferson, Carter, Tillman, Comanche and Major Counties. (Okla. Coop. Sur.).

AN APHID (Rhopalosiphum padi) - OKLAHOMA - Ranged 2-3 per linear foot in wheat in Jefferson, Carter and Major Counties. Averaged 10 per linear foot in Kiowa County. (Okla. Coop. Sur.).

CHINCH BUG (Blissus leucopterus) - KANSAS - Annual survey completed in 45 counties in northeast, east central, southeast, north central, central and south central districts. Bunch grass samples collected during mid-November. Infestations noneconomic in all counties surveyed. Highest count, 126 bugs per square foot, found in Allen County, southeast district. (Simpson).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Ranged 75-100 per linear foot in wheat in Ames area, Major County. (Okla. Coop. Sur.).

GRASSHOPPERS - TEXAS - Light counts made in Gray, Moore, Dallam and Sherman Counties during first week of October; no migration noted. Limited observations in latter part of month revealed presence of few Melanoplus sanguinipes in Donley and Hall Counties; however, no marginal damage to small grains noted. Some marginal damage to wheat observed in Hemphill, Lipscomb and Wheeler Counties; numbers light, no migrations noted. (PPC, South. Reg.). ARIZONA - Adult survey of summer hatching rangeland species completed October 8; Coconino and Yavapai Counties surveyed early in month. Grasshoppers increased sharply in Yavapai County during season; infested acreage more than twice that in 1964. Melanoplus gladstoni, M. lakinus, Drepanopterna femoratum and M. arizonae dominant species. Populations in heavily infested areas of Pima and Santa Cruz Counties declined rapidly early in month; only trace populations remained by close of October. IDAHO - Several species observed on gravelly rangeland east of Shoshone County in mid-October; M. sanguinipes, M. packardii, Oedaleonotus enigma and various Oedipodinae present. Females examined contained large number of eggs. Weather very mild; ample opportunity for egg laying. UTAH - Warm, fall weather favorable for grasshoppers; populations still rather severe in range and crop areas. Oviposition heavy. NEW MEXICO - Grasshoppers found concentrated in 6 locations of 2 acres or less in northeastern Colfax County; up to 35-40 per square yard found in some places. M. gladstoni and Trimerotropis sp. dominant. (PPC West. Reg.). MINNESOTA - Surveys in agricultural areas indicate generally low egg counts, apparently due to abundant rain this fall. (PPC Cent. Reg., Oct. Rpt.).

EUROPEAN CHAFER (Amphimallon majalis) - PENNSYLVANIA - Controls applied to about 1,400 acres in Erie County by end of October. Total of approximately 7,700 acres scheduled for treatment. (PPC East. Reg.). OHIO - Larvae averaged 15 per square foot in vicinity of chemical plant in Cleveland first week of October. Damage noted in many lawns within 0.5-0.75 mile from chemical plant. Infestation appeared much heavier and widespread than originally found (over 1 mile from railroad yards), but all within area planned for treatment. (PPC Cent. Reg.). Third-stage larvae still in upper 3 inches of soil. Downward movement not yet occurred. Populations of from zero up to average of 11 per square foot in center of infested area recorded. (Polivka). This area under insecticide treatment since about mid-October. (Rose).

RHODES-GRASS SCALE (Antonina graminis) - CALIFORNIA - Heavy locally on grass roots in Spring Valley, San Diego County. (Cal. Coop. Rpt.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Building up in several alfalfa fields checked in Eddy County. (Nielsen, Campbell). OKLAHOMA - Heavy in Payne County alfalfa; moderate in Osage County; averaged 1 per 10 sweeps in Major County. (Okla. Coop. Sur.). KANSAS - Present in most alfalfa checked in eastern half of State; low, 10-50 per 10 sweeps. (Simpson). ARKANSAS - Surveys negative in Pulaski County. (Ark. Ins. Sur.).

PEA APHID (Acyrthosiphon pisum) - NEW MEXICO - Building up in several alfalfa fields in Eddy County. (Nielsen, Campbell). OKLAHOMA - Averaged 10 per linear foot in young alfalfa in Major County. (Okla. Coop. Sur.). KANSAS - Light to moderate on alfalfa in most of eastern area; 50-200 per 100 sweeps. Counts in Elk and Wilson Counties greater than 1,000 per 10 sweeps. (Simpson). ARKANSAS - Very low in Pulaski County alfalfa. Remains of parasitized aphids very numerous. (Ark. Ins. Sur.).

ALFALFA WEEVIL (Hypera postica) - MISSOURI - New county records for 1965 include Ste. Genevieve, Osage, Maries and Phelps; Douglas, Ozark, Taney and Christian reported in CEIR 15(20): 471. Infestations light, 1-10 larvae per 100 sweeps. Survey of all counties bordering infested counties negative. (Houser, Peters, Thomas). Delete Missouri note in CEIR 15(48): 1290. (PPC).

A WEEVIL (Pachytychius haematocephalus) - Survey for this pest of birdsfoot trefoil concluded in VIRGINIA and WEST VIRGINIA during October. Several suspect specimens submitted for determination. (PPC East. Reg.). Several plantings of birdsfoot trefoil in Watauga County, NORTH CAROLINA, inspected; no suspicious specimens found. (PPC South. Reg., Oct. Rpt.).

FRUIT INSECTS

PUTNAM SCALE (Aspidiotus ancylus) - CALIFORNIA - Heavy on olive nursery trees locally in Marysville, Yuba County. (Cal. Coop. Rpt.).

ARGENTINE ANT (Iridomyrmex humilis) - CALIFORNIA - Adults medium on citrus trees in Nipomo, San Luis Obispo County. (Cal. Coop. Rpt.).

CITRUS BLACKFLY (Aleurocanthus woglumi) - MEXICO - Biological Control Zone - Total of 26,997 citrus trees inspected on 153 properties in Municipios Mainero, Guemez, Victoria, Llera and Padilla in State of Tamaulipas; 391 infested trees found on 14 properties. In Municipio Mainero adjacent to chemical control zone in Nuevo Leon, 3 new infestations consisting of 5 trees with 5 infested leaves found. Chemical Control Zone - Surveys conducted in States of Nuevo Leon, Tamaulipas, Sonora and Baja California; 44,338 citrus trees inspected on 712 properties with negative results. Included were 2,800 nursery stock trees in Nuevo Leon. (PPC Mex. Reg., Oct. Rpt.).

MEDITERRANEAN FRUIT FLY (Ceratitis capitata) - TEXAS - Surveys in Cameron, Dimmit, Hidalgo, Maverick, Starr, Webb and Zapata Counties negative during October. FLORIDA - All Steiner, McPhail and stickyboard traps negative for this pest during October. Suspicious specimens from stickyboard trap in Hillsborough County determined as native species of no economic importance. Fruit cut for larval survey in Pinellas, Sarasota, Manatee, Orange, Hillsborough, De Soto and Highlands Counties; all results negative. (PPC South. Reg.). MEXICO - Surveys conducted in 18 States and 1 Territory during October; 6,021 inspections made of 3,037 Steiner traps with negative results. Reinstallation of traps begun as rainy season terminating in some localities in southern Chiapas. (PPC Mex. Reg.).

MEXICAN FRUIT FLY (Anastrepha ludens) - TEXAS - In Zapata County, 8 traps placed in operation on 2 properties week of October 11. County outside regulated area; traps operated for survey purposes. All inspections negative. (PPC South. Reg.). MEXICO - In States of Baja California and Sonora, 6,283 inspections made of 1,402 traps on 1,125 properties; 8 native flies captured; 4 males and 3 nongravid females in Municipio Tijuana, and 1 gravid female in Ensenada, Baja California. Larval inspections on 10 properties in Municipio Tijuana and 12 properties in Municipio Ensenada negative. (PPC Mex. Reg., Oct. Rpt.).

TRUCK CROP INSECTS

GRANULATE CUTWORM (Feltia subterranea) - CALIFORNIA - Medium populations damaging Chinese cabbage plants in Reedley, Fresno County. (Cal. Coop. Rpt.).

ROUGH-SKINNED CUTWORM (Proxenus mindara) - CALIFORNIA - This species and Pieris protodice medium on radish plantings in Indio, Riverside County. (Cal. Coop. Rpt.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - Numerous adults of this species and Cerotoma trifurcata collected from woods trash samples along field borders during fall survey for Anthonomus grandis (boll weevil) in Morgan County (northern area) and Henry County (southern area). E. varivestis adults more prevalent; as many as 5,000 per acre in hibernation in some instances. (McQueen).

PEPPER WEEVIL (Anthonomus eugenii) - CALIFORNIA - Medium on chili peppers in Hemet, Riverside County. (Cal. Coop. Rpt.).

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - ALABAMA - No additional finds reported during October. GEORGIA - In southeast Appling County, 8 new infestations found. LOUISIANA - More than 1,500 properties surveyed in 20 parishes; 24 infested properties found in 9 parishes. Most signigicant find, one infested property in Bossier Parish; this initial find in parish. Subsequent inspections showed no additional infested properties. MISSISSIPPI - Surveys during October included growing areas, storages and markets. Infestations found on 2 previously infested properties in Lincoln County; 2 additional infestations found in Jefferson Davis County; weevils found on farm of largest sweetpotato grower in Covington County. SOUTH CAROLINA - Several infested sweetpotato fields found in lower Jasper County; none found in area for several years. Most plantings small and for home use. Surveys negative in Beaufort, Charleston, Horry and Marion Counties. (PPC South. Reg.).

FULLER ROSE BEETLE (Pantomorus godmani) - CALIFORNIA - Adults heavy on "nectarberry" vines in Crannell, Humboldt County. (Cal. Coop. Rpt.).

TURNIP APHID (Rhopalosiphum pseudobrassicae) - ALABAMA - Extremely damaging on turnip leaves in Lee County. (Copeland, Bagby).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Medium on tomato plantings in Upland, San Bernardino County. (Cal. Coop. Rpt.).

TOMATO RUSSET MITE (Aculus lycopersici) - CALIFORNIA - This species and Tetranychus sp. medium on tomato in Fontana and eggplant in Cucamonga, San Bernardino County. (Cal. Coop. Rpt.).

COTTON INSECTS

PINK BOLLWORM (Pectinophora gossypiella) - ARKANSAS - Gin trash collections made throughout State during October; positive specimens collected from Calhoun, Clark, Cleburne, Columbia, Crawford, Hempstead, Howard, Lafayette, Little River, Miller, Nevada and Yell Counties. Infestations apparently very light. LOUISIANA - Surveys continued throughout northern and central portions of State. One or more collections made in all regulated parishes except Jackson, Jefferson Davis and Union. Although considerable gin trash survey done outside regulated area, Avoyelles only new parish found infested. MISSISSIPPI - Weather conditions almost ideal for cotton harvest during October; many fields completely harvested, stalks shredded. Suspicious specimens from Panola County negative for this pest. TENNESSEE - All inspections negative. TEXAS - Inspections carried out in all districts; some generally infested, particularly Pecos, Presidio, Reeves and Ward Counties. Lint cleaner survey indicated possible buildup in eastern Lubbock district; 104 larvae found on lint cleaner after ginning of 2 bales of cotton in McCulloch County. OKLAHOMA - Lint cleaner and gin trash inspections continued in several counties; counts continue to show increase compared with 1964 populations. (PPC South. Reg.). NEW MEXICO - First killing frost occurred latter part of week ending December 3 in many areas of southern counties. This allowed near completion of extra generation due to additional month of frost-free weather compared with most years. All sizes of larvae found in exposed bolls in southern Eddy County; majority still alive and active. (Campbell, Nielsen).

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Limited surveys made in high plains section early in October; light infestations in green bolls found in some fields. In big bend area, surveys negative in El Paso, Hudspeth and Culberson Counties, and in Redford and lower Presidio section. (PPC South. Reg.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

EASTERN TENT CATERPILLAR (Malacosoma americanum) - OKLAHOMA - Overwintering eggs very numerous on wild plum in Major and Woodward Counties. (Okla. Coop. Sur.).

CALIFORNIA OAKWORM (Phryganidia californica) - CALIFORNIA - Eggs and larvae medium on live oak nursery stock in Napa, Napa County. (Cal. Coop. Rpt.).

GYPSY MOTH (Porthetria dispar) - VERMONT - During September, single male moths collected at Berkshire, Franklin County; Bloomfield, Essex County; and Johnson, Lamoille County. Scouting during October revealed no egg deposition. NEW YORK - In Jefferson County, scouting revealed 3 new egg masses in Orleans Township, about 500 feet north of infestation found during recent trapping program. PENNSYLVANIA - Limited scouting of positive trap sites in Pike County revealed large infestation on shore of Silver Lake, Delaware Township. Approximately 20 new and 100 old egg clusters distributed over one acre. Infestation centered in summer camp area; egg clusters, pupal cases and molt skins attached to sides of buildings, on stones and in debris. (PPC East. Reg.).

PINE BARK APHID (Pineus strobi) - OHIO - Damaged evergreens at Cleveland, Cuyahoga County. (Bartlett, Holdsworth, Delaplane).

APHIDS - CALIFORNIA - Lachnus salignus medium on weeping willow trees in Willows, Glenn County. (Cal. Coop. Rpt.). ALABAMA - Aphis spiraecola continues heavy on spiraea; egg laying underway following recent 20-25 degree temperatures. (McQueen).

EUONYMUS SCALE (Unaspis euonymi) - MARYLAND - Heavy on euonymus at Waldorf, Charles County. (U. Md., Ent. Dept.).

MEALYBUGS - CALIFORNIA - Pseudococcus obscurus nymphs and adults medium on gazania plants locally in Santa Ana, P. adonidum heavy on Phormium tenax in Capistrano Beach, Rhizoecus leucosomus observed in soil around oleander plants in San Clemente, Orange County. (Cal. Coop. Rpt.).

SPIDER MITES (Tetranychus spp.) - CALIFORNIA - Heavy on Solanum sp. in Fontana, San Bernardino County. (Cal. Coop. Rpt.).

A MILLIPED (Oxidus gracilis) - CALIFORNIA - Heavy in soil and on azalea nursery stock in San Luis Obispo, San Luis Obispo County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - LOUISIANA - Larval collections by Jefferson Parish Department of Mosquito Control for period ending December 2 contained: Aedes vexans, Anopheles punctipennis, Anopheles quadrimaculatus, Culex salinarius and Culiseta inornata. Light trap collections decreased due to cooler weather. (Stokes).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Averaged 3 per head on cattle checked in Carter County. (Okla. Coop. Sur.).

HOG LOUSE (Haematopinus suis) - OKLAHOMA - Heavy on hogs in Blaine, Dewey, Custer and Canadian Counties. (Okla. Coop. Sur.).

BROWN DOG TICK (Rhipicephalus sanguineus) - DELAWARE - Infestation reported in Sussex County home; previous reports from county very scarce. (Ralph, MacCreary).

STORED-PRODUCT INSECTS

NAVEL ORANGEWORM (Paramyelois transitella) - CALIFORNIA - Heavy in unshelled almond nuts locally in Auburn, Placer County. Heavy in home stored almonds in many northern locations this season. (Cal. Coop. Rpt.).

ALMOND MOTH (Cadra cautella) - CALIFORNIA - Medium in stored peanuts in Chula Vista, San Diego County. (Cal. Coop. Rpt.).

DRUGSTORE BEETLE (Stegobium paniceum) - CALIFORNIA - Adults heavy in bags of flour in local establishment in Baywood Park, San Luis Obispo County. (Cal. Coop. Rpt.).

KHAPRA BEETLE (Trogoderma granarium) - TEXAS - Two warehouses inspected at Port of Houston during October; no positive determinations received. OKLAHOMA - Detection surveys made of 2 feed mills in Cleveland County, 2 properties in Jefferson County, 1 property in Greer County and 2 properties in Canadian County; properties also surveyed in Custer, Jackson and Kiowa Counties; all negative. LOUISIANA - Surveys made on 42 properties in 7 parishes; no positive determinations received. SOUTH CAROLINA - Surveys made in several locations, results negative. NORTH CAROLINA - No positive determinations made of specimens taken at several locations during October. (PPC South. Reg.). All inspections during October in ARIZONA, CALIFORNIA, NEW MEXICO, COLORADO and WASHINGTON negative. (PPC West. Reg.).

MISCELLANEOUS INSECTS

WHITE-FRINGED BEETLES (Graphognathus spp.) - NEW JERSEY - Survey conducted in fields where root crops, especially sweetpotatoes, being harvested in southern area. VIRGINIA - Delimiting surveys around infested area and selective surveys in outlying areas continued; no new infestations found. Total of 400 acres treated in Norfolk-Virginia Beach area. MARYLAND - Residual treatment of infested area at Temple Hills completed except for one field. Treatment applied to 252 properties totaling 197 acres. (PPC East. Reg., Oct. Rpt.). ALABAMA - Special surveys conducted on 740 acres in Coosa and Marshall Counties with no significant developments; 42 properties checked in Chilton and Montgomery Counties. ARKANSAS - At West Memphis, 2 dead beetles found on 1 city block; this new location in city involves industrial site. Other surveys in area and elsewhere in State negative. FLORIDA - No new finds made. GEORGIA - Infested property found in Jasper County, approximately 5 miles from known infestation. In Pike County, another adult found some 7 miles from nearest reported infested area. LOUISIANA - Small infestation found near high school at Greensburg, St. Helena Parish. This is new parish record. MISSISSIPPI - Surveys continued in Choctaw and Webster Counties; approximately 50 acres added to infested area in Choctaw County. Spot surveys in remainder of State showed no increase to infested area. NORTH CAROLINA - Extensions of infestations found in Newton and one found in Salisbury; small extension found at Fountain infestation in Pitt County. Surveys in Anson, Davidson, Union, Lenoir and Robeson Counties revealed no additional infestations. SOUTH CAROLINA - Extensions to infestations found at Lone Star in Calhoun County and in Pickens County. TENNESSEE - New infestation found adjacent to Chattanooga airport; city apparently rapidly becoming generally infested. Slight extensions made to few older infested areas. (PPC South. Reg., Oct. Rpt.). KENTUCKY - Delimiting survey of infested area in Fulton County completed first week of October. Visual surveys made of approximately 242 properties in Logan, Hopkins, Fulton, Calloway, McCracken, Warren, Allen, Simpson, Todd and Trigg Counties all negative. Some survey made in Graves County. MISSOURI - Survey negative on 12 properties totaling 101 acres in 4 southeastern counties. (PPC Cent. Reg.).

JAPANESE BEETLE (Popillia japonica) - TENNESSEE - Remaining traps in Hamby Valley of Monroe County removed and stored. No specimens found. (PPC South. Reg., Oct. Rpt.).

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - NORTH CAROLINA - Infestation found in Brunswick County; single mound found in previously treated area in Fayetteville. SOUTH CAROLINA - Some extensions found in Lexington County treated immediately. Scattered mounds found in Richland County; specimens submitted for determination from Charleston County. Small extension found to infestation in vicinity of University of South Carolina at Columbia. TENNESSEE - All inspections negative. GEORGIA - Inspections made during first part of October in treated and untreated areas in Richmond, Chatham, Pierce, Brantley, Bibb, Coffee, Ware, De Kalb and Houston Counties. Southern Houston County found generally infested to Dooly County line; 125 mounds found in Pierce and Brantley Counties outside treated area. Several mounds found in 2 isolated spots in De Kalb County. FLORIDA - Considerable number of small mounds appearing throughout most of treated area in and around Orlando. Survey completed in Jacksonville area; 900,000 acres in vicinity require treatment to accomplish overall program. ALABAMA - Surveys continued in peripheral areas. Additional infested acres found at locations in 8 counties. MISSISSIPPI - Inspections negative in Chickasaw, Monroe, Webster and Copiah Counties. Few small mounds found in treated area in Covington County. LOUISIANA - Surveys made in 4 northwest parishes; some extensions found in infested area in Bossier Parish. ARKANSAS - Detection surveys negative in Union County control area. TEXAS - Additional infestations found in Galveston County; inspection negative in 150-acre nursery near League City. Small, isolated infestations found in San Antonio. (PPC South. Reg., Oct. Rpt.).

CITRUS WHITEFLY (Dialeurodes citri) - CALIFORNIA - Very light nymphal infestations found on 3 properties in Fresno eradication area. Treatment to begin in early December if weather permits. No adults present. (Cal. Coop. Rpt.).

CORRECTIONS

CEIR 15(48):1285 (DETECTION) and 1290 - ALFALFA WEEVIL (Hypera postica) - MISSOURI - Delete note. See page 1312 this issue for corrected report.

LIGHT TRAP COLLECTIONS

GEORGIA (Tifton, 11/25-12/1) (Temp. 38-75 F°; precip. 0 in.; 1 blacklight) - Heliothis zea 17; H. virescens, Protoparce quinquemaculata, P. sexta all zero.

TEXAS (Waco, 11/29-12/3) (blacklight) - Agrotis ipsilon 5, Estigmene acrea 0, Feltia subterranea 57, H. virescens 0, H. zea 1, Peridroma saucia 27, Prodenia ornithogalli 2, Pseudaletia unipuncta 12, Spodoptera exigua 30, S. frugiperda 12, Trichoplusia ni 0.

ADDITIONAL NOTES

ARIZONA - LYGUS BUGS (Lygus spp.) averaged 90 per 100 sweeps in Yuma County alfalfa. PEA APHID (Acyrthosiphon pisum), first of fall season, averaged 100 per 100 sweeps in Yuma Valley alfalfa. THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) averaged 190 per 100 sweeps in most Yuma Valley alfalfa. WESTERN FLOWER THRIPS (Frankliniella occidentalis) causing some discoloration and spread of spotted wilt in Yuma Valley lettuce. MELON APHID (Aphis gossypii) becoming a problem to nurserymen on variety of plants in Yuma. Gin trash and field surveys show a WEEVIL (Anthonomus sp.) present as far west as Texas Hill in Yuma County. PINK BOLLWORM (Pectinophora gossypiella) larvae found in the field as far west as Texas Hill in Yuma County. Moths taken in sex-lure traps on Yuma Mesa. Field surveys in Wellton-Roll area negative. (Ariz. Coop. Sur.).

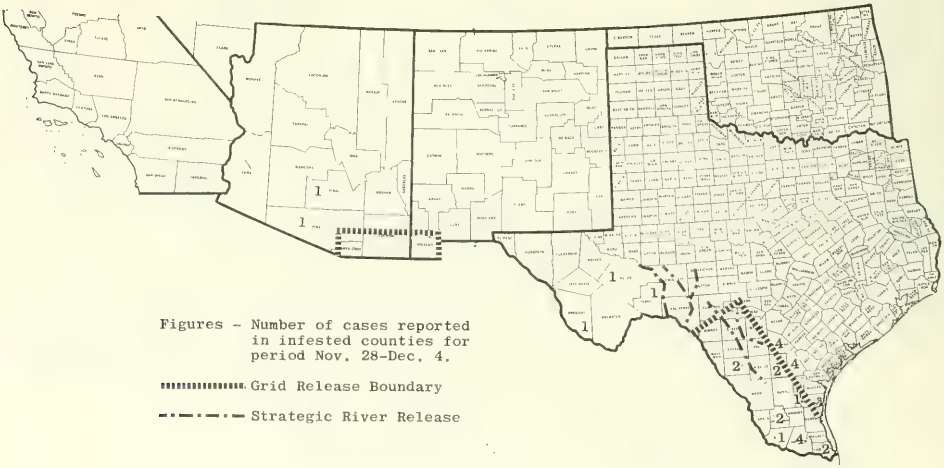
STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period November 28-December 4, a total of 27 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Atascosa 4, Cameron 2, Dimmit 2, Live Oak 4, McMullen 2, Jim Hogg 2, Hidalgo 4, and 1 each in Pecos, Presidio, Starr, Terrell and Jim Wells; ARIZONA - Pima 1, Pinal 1. The Republic of Mexico reported 107 cases: Territorio sur de Baja California 12, Sonora 15, Nuevo Leon 4, Chihuahua 24, Coahuila 6, Tamaulipas 46. Sterile screw-worm flies released: Texas 13,524,250, New Mexico 3,040,000, Arizona 11,400,000, and Mexico 47,336,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	14	6319	104	7222	13.46	87.49
1964	0	236	55	6119	0.00	3.85
1965	27	995	99	4782	27.27	20.80
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	138	4269	48	1995	287.50	213.98
1965	122	5402	38	2155	321.05	250.67

Feasibility Survey - During this period, 213 cases were identified in Mexico south of the Barrier Zone, as follows: Veracruz 26, Jalisco 9, Sinaloa 16, Durango 48, Guerrero 15, Michoacan 13, Hidalgo 4, Chiapas 13, Oaxaca 12, Puebla 6, Aguascalientes 1, Tabasco 2, Yucatan 15, Morelos 2, Nayarit 13, San Luis Potosi 8, Campeche 2, Guanajuato 4, Mexico 1, Zacatecas 3.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 December 17, 1965 Number 51

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

CORN ROOTWORM larval survey in southwest Minnesota compares favorably with adult survey conducted in August. SOUTHWESTERN CORN BORER fall survey reported from Missouri. GREENBUG increased on wheat in Oklahoma. (p. 1323). HESSIAN FLY populations considerably higher in volunteer wheat in Kansas than for past several years. SPOTTED ALFALFA APHID heavy on alfalfa in area of Oklahoma and light to medium generally on that crop over New Mexico. (p. 1324).

WOOLLY APPLE APHID very heavy in Bernalillo County, New Mexico. (p. 1324). Larvae of several species of LEPIDOPTERA damaging lettuce in Arizona. (p. 1325).

DETECTION

A GELECHIID MOTH (Platyedra vilella) reported for first time from New Hampshire. New county records were SPRUCE NEEDLE MINER (Taniva albolineana) from Douglas, Ormsby, Elko and White Pine Counties, Nevada. (p. 1326).

ADDITIONAL NOTES

See page 1328.

SPECIAL REPORTS

A Note on the Generic Nomenclature of the Corn Earworm and Its Relatives. (Lepidoptera: Noctuidae). (p. 1328).

Status of the Screw-worm in the Southwest. (p. 1329).

State Survey Coordinators. (Revised December 17, 1965). (pp. 1330-1332).

Reports in this issue are for week ending December 10 unless otherwise indicated.

WEATHER OF THE WEEK ENDING DECEMBER 13, 1965

HIGHLIGHTS: (1) Warm week most of Nation. (2) Fair, dry beginning; became cloudy, foggy over large areas.

TEMPERATURE: It was a very warm December week with average temperatures 6° to 12° above normal large areas, particularly in the Rockies and in the central third. Only part of California, and some southeastern and extreme eastern areas were even slightly below normal. In some central areas this was the sixth consecutive above normal week and it is evident that the mild temperature patterns of November will continue at least until mid-December. The high pressure and clear skies early in the week gradually gave way to low pressure, cloudiness, and fog by the weekend. Early week daily temperatures ranged widely and the freezing line dipped far southward on several mornings. Tallahassee, Florida, reported 25° Thursday morning and 70° in the afternoon. Temperatures in the 60's reached Kansas and Missouri on several afternoons. Although cooler air moved into central areas on Sunday, temperatures were still not low for the season.

PRECIPITATION: Seasonal precipitation fell in the Pacific Northwest but only in moderate amounts. Low pressure aloft brought substantial amounts to Arizona and southern Utah and heavy rains to parts of southern California with more than 3.5 inches at San Diego. Most of the Rockies and northern Plateau areas received very little. As a moderately deep low moved through the Great Lakes area late in the week, substantial amounts fell in the Mississippi Valley and the Great Lakes, but with lesser amounts in most east coastal areas.

MISCELLANEOUS: With continuing high pressure in the West, fog persisted in the Utah area early in the week. Late in the week, fog and low cloudiness formed over the upper Mississippi Valley to the East coast. Snow, mostly in light amounts, occurred in a narrow band from the Dakotas eastward to New England. Some sleet or freezing rain fell just to the south and occasionally in the Snow Belt. Glaze disrupted power and communication lines in the Dakotas. Persistent fog and occasional slippery conditions slowed travel in the north central and northeastern sections. Snow depths increased mostly in the upper Great Lakes and upper New England and at other mountain locations both east and west. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

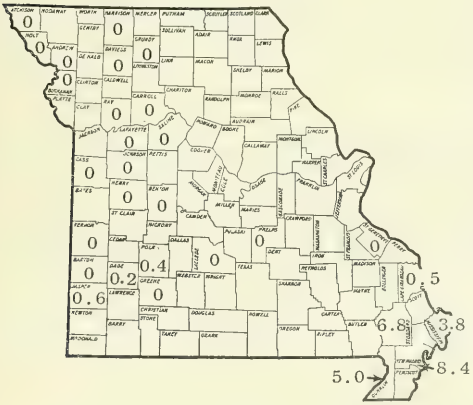
CORN ROOTWORMS (Diabrotica spp.) - MINNESOTA - Larvae collected in 14 southwestern counties during past summer. Larvae kept separate by county; 298 larvae collected and recently determined as to either D. virgifera (western corn rootworm) or D. longicornis (northern corn rootworm). This done as additional check on adult survey conducted during August. (See CEIR 15(36):1030 and 15(35):993-994). Larval collections and adult survey percentages, although not exactly same, compare very favorably. Differences in few county percentages probably due to smaller sample size of larval collections. The following table shows results of larval determinations by county:

County	Percent D. longicornis	Percent D. virgifera
Rock	41	59
Nobles	92	8
Jackson	75	25
Martin	40	60
Pipestone	80	20
Murray	98	2
Cottonwood	50	50
Watonwan	83	17
Lincoln	100	0
Lyon	71	29
Redwood	83	17
Brown	75	25
Yellow Medicine	100	0
Lac qui Parle	100	0

(Minn. Ins. Rpt.).

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - MISSOURI - Fall survey for 1965 completed; 29 counties surveyed. Girdled stalks averaged 0.2 percent in southwest and 4.9 percent in southeast districts, compared with 10 percent in southwest and 18.1 percent in southeast in 1964. No new counties were found infested in 1965. Accompanying map shows percent girdled stalks in counties surveyed. (Houser, Thomas). OKLAHOMA - Averaged 1 live larva per 100 stalks in corn checked in Bryan County. (Okla. Coop. Sur.). ALABAMA - In southern Tuscaloosa County and northern edge of Bibb County, 20 girdled cornstalks contained 20 overwintering larvae; survival 100 percent (McQueen).

Southwestern Corn Borer Survey in Missouri - 1965



GREENBUG (Schizaphis graminum) - KANSAS - Remains low in most areas. No damage reported. (Simpson). OKLAHOMA - Counts increased to 120 per linear foot in wheat in Perkins area, Payne County. Ranged 3-25 per linear foot in Mayes, Delaware, Craig, and Nowata Counties; 3-6 per linear foot in Kiowa, Tillman, Cotton, Grady and Bryan Counties. (Okla. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Medium to heavy on barley in Artesia area, Eddy County. (Kloepfer). OKLAHOMA - Averaged 50 per linear foot in oats in Washington County; ranged 4-14 per linear foot in wheat in Cotton, Tillman and Bryan Counties. (Okla. Coop. Sur.).

GRAIN APHIDS - NORTH CAROLINA - Damaging small grain around Wilmington in New Hanover and Pender Counties. (Sessions). NEW MEXICO - Rhopalosiphum sp. generally light on wheat in Curry County. (Kloepfer).

HESSIAN FLY (Mayetiola destructor) - KANSAS - Populations considerably higher in volunteer wheat in central and north central districts than past 3-4 years. (Somsen).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Ranged 8-40 per linear foot in wheat checked in Cotton, Tillman and Kiowa Counties; moderate in Kingfisher County. (Okla. Coop. Sur.).

WHEAT CURL MITE (Aceria tulipae) - KANSAS - Trace numbers found in planted wheat; no streak mosaic disease found. (Somsen).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Heavy in Payne County alfalfa; isolated fields sprayed. Averaged 30 per 10 sweeps in Marshall County; moderate in Nowata County. (Okla. Coop. Sur.). NEW MEXICO - Light to medium infestations general in alfalfa throughout State. (N. M. Coop. Rpt.).

PEA APHID (Acyrthosiphon pisum) - OKLAHOMA - Moderate in alfalfa in Nowata and Kingfisher Counties. Averaged 12 per 10 sweeps in Marshall County. (Okla. Coop. Sur.). NEW MEXICO - Light to medium on alfalfa in Chaves, Eddy and Bernalillo Counties. (Kloepfer, Heninger).

ALFALFA WEEVIL (Hypera postica) - OHIO - Adults collected as late as November 26 at Carpenter, Meigs County; averaged 10 per 25 sweeps. (Jordan).

CLOVER LEAF WEEVIL (Hypera punctata) - OHIO - Oviposition noted through end of November in Mahoning County, northeast. (Niemczyk, Flessel).

BEET ARMYWORM (Spodoptera exigua) - ARIZONA - Larvae still observed in Yuma County alfalfa. Averaged 120 per 100 sweeps in some fields. (Ariz. Coop. Sur.).

ALFALFA CATERPILLAR (Colias eurytheme) - ARIZONA - Larve averaged 80 per 100 sweeps in some alfalfa on Yuma Mesa. (Ariz. Coop. Sur.).

FRUIT INSECTS

WOOLLY APPLE APHID (Eriosoma lanigerum) - NEW MEXICO - Very heavy on some apple trees in Bernalillo County. (Heninger). ALABAMA - Several apple trees on Tuscaloosa County farm heavily infested and damaged by E. lanigerum on root systems and Aspidiotus perniciosus on all limbs and trunks. (Granberry et al.).

TWIG GIRDLER (Oncideres cingulata) - ALABAMA - Considerable twig cutting by adults observed in 2 separate pecan orchards in Lee and Dallas Counties; 25 twigs counted on and under single 30-foot tree in Dallas County. (Granberry et al.).

PECAN WEEVIL (Curculio caryae) - ALABAMA - Exit holes in pecans plentiful in one orchard in Lee and Dallas Counties. Few larvae still in pecans with no exit holes. (Granberry et al.).

HICKORY SHUCKWORM (Laspeyresia caryana) - ALABAMA - Larvae overwintering in shucks of pecans continue heavy under all pecan trees examined, especially in Dallas, Tuscaloosa, Bibb and Lee Counties. (Granberry et al.).

A LEAF ROLLER MOTH (Ptycholoma peritana) - CALIFORNIA - Larvae feeding inside navel orange fruit in Fresno County. This first occurrence of this type injury to oranges in county. (Cal. Coop. Rpt.).

TRUCK CROP INSECTS

TOMATO PINWORM (Keiferia lycopersicella) - CALIFORNIA - Medium in tomato vines in Fresno, Fresno County. (Cal. Coop. Rpt.).

CELERY LEAF TIER (Oeobia rubigalis) - ARIZONA - Damaging approximately 100 acres of lettuce in areas of Yuma County. (Ariz. Coop. Sur.).

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Averaged one larva per 2 heads of cabbage in Robertson County. (Meisch).

CORN EARWORM (Heliothis zea) - ARIZONA - Spotted infestations continue to require controls on Maricopa County lettuce. (Ariz. Coop. Sur.).

SALT-MARSH CATERPILLAR (Estigmene acrea) - ARIZONA - Larval migrations increasing in lettuce near nondefoliated cotton. Some damage reported in Yuma County. (Ariz. Coop. Sur.).

A WEEVIL (Hyperodes texana) - TEXAS - Probably this species heavy locally on carrots in Hidalgo County; about 50 percent of plants infested. (Boling).

STRAWBERRY ROOT APHID (Aphis forbesi) - CALIFORNIA - Feeding on leaf petioles and young developing leaf buds of strawberries; plants appear dry and unthrifty in some Fresno County locations. (Cal. Coop. Rpt.).

SPIDER MITES (Tetranychus spp.) - CALIFORNIA - Medium on field-grown tomatoes in Chino, San Bernardino County. T. telarius medium on eggplant at Riverside, Riverside County. (Cal. Coop. Rpt.).

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis) - TEXAS - Moderate to heavy locally in Burleson County cotton. Weevils ranged 500-2,000 per acre. (Cole).

CELERY LEAF TIER (Oeobia rubigalis) - ARIZONA - Fall infestations found on cotton in areas of Yuma County. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

FALL CANKERWORM (Alsophila pometaria) - WISCONSIN - Females noted on trunks of hawthorn in Madison area. Dissection revealed eggs on December 8. (Wis. Ins. Sur.).

CARPENTERWORM (Prionoxystus robiniae) - CALIFORNIA - Larvae heavy on boxelder locally in Raisin City, Fresno County. (Cal. Coop. Rpt.).

A TORTRICID MOTH (Argyrotaenia sp.) - CALIFORNIA - Larvae medium on azalea and cyclamen nursery stock in nursery in San Francisco, San Francisco County. (Cal. Coop. Rpt.).

SPRUCE NEEDLE MINER (Taniva albolineana) - NEVADA - Reported from State for first time in CEIR 15(44):1227; additional locality carried in CEIR 15(45):1245. Since that date, infestations found at following locations: Gardnerville and Minden, Douglas County; Carson City, Ormsby County; Pleasant Valley and Sparks, Washoe County; Elko, Elko County; and Ely, White Pine County. Douglas, Ormsby, Elko and White Pine new county records. Det. by R. C. Bechtel and confirmed by G. T. Okumura. (Bechtel).

A GELECHIID MOTH (Platyedra vilella) - NEW HAMPSHIRE - Larvae fed extensively in flowering tips of hollyhock at Portsmouth, Rockingham County, July 26. Also observed boring into stems, flower buds, and feeding on pollen and newly developing seeds. Det. by A. E. Brower. This is a new State record. (Sutherland).

BLACK VINE WEEVIL (Brachyrhinus sulcatus) - CALIFORNIA - Larvae heavy on primrose roots and on begonia tubers locally in Arcata, Humboldt County. (Cal. Coop. Rpt.).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - TEXAS - Moderate to heavy and widespread on elms in Potter County. (Franks).

A NAUTICAL BORER (Xylotrechus nauticus) - CALIFORNIA - Larvae heavy locally in eucalyptus tree bark in Quail Valley, Riverside County. (Cal. Coop. Rpt.).

APHIDS - CALIFORNIA - Myzus ornatus heavy on coleus in San Francisco nursery. (Cal. Coop. Rpt.). UTAH - Pterocomma sp. abundant on willow trees in St. George-Santa Clara area, Washington County. (Knowlton, Huber). NEW MEXICO - Cinara tujafilina light to heavy on arborvitae in Socorro, Valencia and Bernalillo Counties. (Heninger, Mathews). Unspecified species heavy on Arizona cypress in Albuquerque nursery, Bernalillo County. (Heninger). TEXAS - Cinara sp. locally heavy on mountain willow in El Paso County. (Dickson). OKLAHOMA - C. tujafilina heavy on arborvitae in Stillwater, Payne County; first report of season and about one month earlier than 1964 appearance. Lachnus salignus moderate on willows in Garfield County. (Okla. Coop. Sur.). WISCONSIN - Capitophorus sp. still active on Russian-olive in Madison area. (Wis. Ins. Sur.).

A COREID BUG (Jadera haematoloma) - TEXAS - Occurring on various shade and ornamental trees and shrubs in San Patricio County. (Neuman).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - CALIFORNIA - Medium on pine nursery stock in Marysville, Yuba County. (Cal. Coop. Rpt.).

EUONYMUS SCALE (Unaspis euonymi) - NEW MEXICO - Killing some euonymus varieties in Albuquerque area. (Heninger).

EUROPEAN EARWIG (Forficula auricularia) - NEW MEXICO - Causing considerable concern in garden plots and yards in Santa Fe, Santa Fe County. (Chavez).

TEXAS LEAF-CUTTING ANT (Atta texana) - TEXAS - Locally heavy in Travis and Wood Counties. (Thompson, Meisch).

SPIDER MITES (Tetranychus spp.) - OKLAHOMA - Heavy on ornamental junipers in Pushmataha County. (Okla. Coop. Sur.). NEW MEXICO - Medium to heavy on potted scheffleras in Albuquerque. (Heninger). CALIFORNIA - T. telarius locally medium on nightshade in Hemet, Riverside County. (Cal. Coop. Rpt.).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - LOUISIANA - Larval collections by Jefferson Parish Department of Mosquito Control contained: Aedes sollicitans, Aedes vexans, Anopheles crucians, Anopheles quadrimaculatus, Culex pipiens quinquefasciatus, Culex restuans, Culex salinarius, Culex territans, Culiseta inornata. Light trap collections showed noticeable decrease due to colder weather. (Stokes).

CATTLE LICE - MARYLAND - Causing some concern in herd of 200 dairy cattle in Carroll County. (U. Md., Ent. Dept.). ALABAMA - Cattle in Marengo and other counties showing signs of infestations of Bovicola bovis as winter approaches. (Jones et al.).

FLEAS (Ctenocephalides spp.) - OKLAHOMA - Large numbers present in several homes in Payne and Logan Counties. (Okla. Coop. Sur.).

EAR TICK (Otobius megnini) - UTAH - Serious problem in many cattle herds in Grand County; less severe in San Juan County. (Knowlton, Argyle).

HOUSEHOLD AND STRUCTURAL INSECTS

INDIAN-MEAL MOTH (Plodia interpunctella) - MARYLAND - Moths and larvae evident in homes in Harford and Prince Georges Counties. (U. Md., Ent. Dept.).

A DARKLING BEETLE (Amphidora nigripilosa) - CALIFORNIA - Adults heavy in yard and residence in Oxnard, Ventura County. (Cal. Coop. Rpt.).

A COREID BUG (Arhyssus scutatus) - CALIFORNIA - Medium adult numbers entered residence in Hollister, San Benito County. Adults of this species and Liorhyssus hyalinus heavy around heat ducts and vents in home in Stanford, San Mateo County. (Cal. Coop. Rpt.).

BLACK CARPENTER ANT (Camponotus pennsylvanicus) - MARYLAND - Winged forms and workers observed about property in Berwyn Heights, Prince Georges County. (U. Md., Ent. Dept.).

CLOVER MITE (Bryobia praetiosa) - MARYLAND - Troublesome in and about homes in Anne Arundel and Carroll Counties. (U. Md., Ent. Dept.). OHIO - Active in homes in Portage and Franklin Counties. (Walker, Delaplane).

STORED-PRODUCT INSECTS

Stored-Product Insects in Oklahoma - Farm-stored grain sorghum checked in Marshall County showed the following counts per quart: Sitophilus granarius 23, Stegobium paniceum 3, Tribolium castaneum 12, Oryzaephilus surinamensis 10. (Okla. Coop. Sur.).

Stored-Product Insects in Ohio - Brief survey of grain elevators and feed mills in east central area indicated Tenebrio molitor as most common pest. Larval population of Attagenus piceus rather large in Champaign County feed mill. Det. by R. P. Holdsworth. Tribolium confusum common in different locations. Other pests noted in lesser numbers included spider beetles, Anagasta kuehniella, Sitophilus granarius and predaceous fly larvae of family Scenopinidae. Populations essentially quiescent, as grain elevators unheated. Insects active in one heated feed mill. (Rose).

MEDITERRANEAN FLOUR MOTH (Anagasta kuehniella) - NORTH CAROLINA - Infested stored corn on Hyde County farm. (Westerbeek, Mount).

CIGARETTE BEETLE (Lasioderma serricorne) - TEXAS - Heavy in stored sacks of cotton seed meal in Austin County. (Murphy).

A DERMESTID BEETLE (Trogoderma parabile) - CALIFORNIA - Larvae heavy in stored rice hulls at mill in Maxwell, Colusa County. (Cal. Coop. Rpt.).

BENEFICIAL INSECTS

A LADY BEETLE (Coleomegilla vittigera) - CALIFORNIA - Adults heavy in rice stubble fields in Durham, Butte County. (Cal. Coop. Rpt.).

Beneficial Insects in New Mexico - Lady beetles, lacewings and damsel bugs generally light in alfalfa over State. (N. M. Coop. Rpt.).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - ALABAMA - Mounds 8-15 inches high numerous in pastures and fields in much of Dallas, Hale, Tuscaloosa, Bibb, and some adjoining counties. (McQueen).

LIGHT TRAP COLLECTIONS

GEORGIA (Tifton, 12/1-8) (Temp. 28-64° F.; precip. 0 in.; blacklight) - Heliothis zea 1, H. virescens 0, Protoparce quinquemaculata 0, P. sexta 0.

SOUTH CAROLINA (Charleston, 11/29-12/5) (Temp. 26-65° F.; precip. 0 in.; blacklight) - Pseudaletia unipuncta 4, Spodoptera frugiperda 3, Prodenia ornithogalli 0, Agrotis ipsilon 1, Feltia subterranea 4, Peridroma saucia 0, H. zea 7, H. virescens 0, P. sexta 0, P. quinquemaculata 0, Estigmene acrea 0, Trichoplusia ni 0.

ADDITIONAL NOTES

ARKANSAS - Egg deposition by ALFALFA WEEVIL (Hypera postica) underway in northeast area alfalfa. Limited sampling indicates eggs number more than one million per acre. HOUSE FLY (Musca domestica) populations persist due to continued mild weather; numbers continue high in rural areas in northwest section of State. Large number of poultry houses in area probably contributing factor. (Ark. Ins. Sur.).

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A Note on the Generic Nomenclature of the Corn Earworm and Its Relatives. (Lepidoptera: Noctuidae)

David F. Hardwick, Entomology Research Institute, Ottawa, Canada, has published a paper in the Memoirs of the Entomological Society of Canada, No. 40, 1965, titled "The Corn Earworm Complex." In that paper he applies a new generic term, Helicoverpa, to the complex. Boursin, 1965, Soc. Linnéenne de Lyon 34(6):186, has synonomized the name to Chloridea Westwood, another synonym of Heliothis Ochsenhiemer. We are of the opinion that generic separation of the corn earworm complex from the other species of Heliothis is unwarranted and we shall continue to utilize Heliothis Ochsenhiemer for this important complex of species.

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UNITED STATES DEPARTMENT OF AGRICULTURE
Hyattsville, Maryland 20781

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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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United States Department of Agriculture
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Hyattsville, Maryland 20781

Volume 15 December 24, 1965 Number 52

COOPERATIVE ECONOMIC INSECT REPORT

SEASON'S GREETINGS

HIGHLIGHTS

Various APHIDS increasing on wheat in Arkansas and Oklahoma. (p. 1335).

Heavy damage caused by PECAN WEEVIL and HICKORY SHUCKWORM now apparent on harvested pecans in Alabama. (p. 1336).

YELLOW SCALE population highest on record for Florida citrus groves.

A CONIFER APHID (Cinara tujafilina) heavy on arborvitae in many areas of eastern Oklahoma. (p. 1337).

DETECTION

AZALEA WHITEFLY (Pealius azaleae) collected for the first time in Ohio and a DRYWOOD TERMITE (Kalotermes approximatus) collected for the first time in North Carolina. (p. 1337). Other new records included: A FRUIT FLY (Anastrepha suspensa) in Lee County, Florida (p. 1336), and BROWN SPIDER (Loxosceles reclusa) in Jefferson Parish, Louisiana, (p. 1338).

SPECIAL REPORTS

Status of the Screw-worm in the Southwest. (p. 1340).

Mites Found in Alfalfa Weevil Oviposition Punctures in Western Massachusetts. (p. 1339).

Reports in this issue are for week ending December 17 unless otherwise indicated.

WEATHER BUREAU'S 30-DAY OUTLOOK

MID-DECEMBER 1965 TO MID-JANUARY 1966

The Weather Bureau's 30-day outlook for the period from mid-December through mid-January calls for temperatures to average below seasonal normals in the western half of the Nation and also in the upper and middle Mississippi Valley, the Great Lakes Region and New England. Above normal averages should be confined to the Southeast while near normal temperatures are called for in unspecified areas. Precipitation is expected to exceed normal over most of the area from the Continental Divide eastward to the Appalachians as well as over New England and eastern portions of the central and southern plateau in the West. Subnormal totals are called for over the Pacific Northwest, the central Pacific Coast and also Florida. Elsewhere near normal precipitation is in prospect.

Weather forecast given here is based on the official 30-day "Resume and Outlook" published twice a month by the Weather Bureau. You can subscribe through the Superintendent of Documents, Washington, D. C. 20250. Price $5.00 a year.

WEATHER OF THE WEEK ENDING DECEMBER 20

HIGHLIGHTS: (1) Much colder, West and Central. (2) Cloudy, frequent precipitation. (3) Scattered heavy snows.

TEMPERATURES: As days approached their shortest length, the coldest weather of the season came to very large areas and especially in the West. This occurred as high pressure became strong in the West and Arctic air moved southeastward from Canada. This sharply reversed a pattern of mild weather which prevailed in most central areas for at least 6 to 8 weeks. Weekly average temperatures were 6° to 12° below normal in most of the West. Portions of the Great Basin and eastern slopes of the central Rockies averaged 15° to 24° colder than a week earlier. Subzero temperatures occurred at some high mountain locations in California and in the Rockies as far south as northern New Mexico. The Zero Line also reached into western Nebraska and northern Minnesota and northern New England. Freezing was reported at Yuma, Arizona, on Sunday. Cooling came more slowly to the East so that weekly average temperatures were slightly above normal at some locations, mainly near the east coast. A strong chinook (Foehn wind) late in the week sent temperatures into the 40's on the eastern slopes of the northern Rockies and melted some of the snow there. The chinook reached 83 mph in gusts at Livingston, Montana.

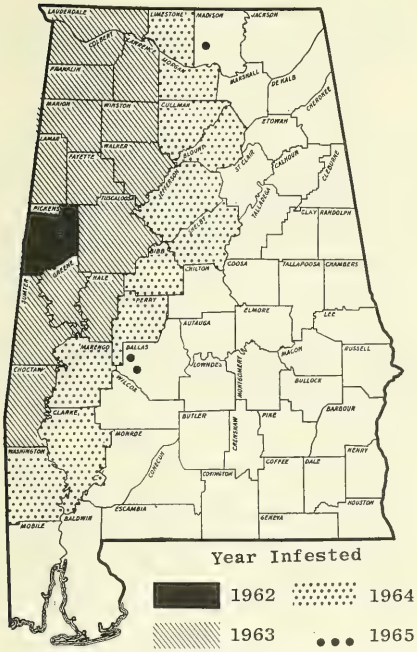
PRECIPITATION: Skies were cloudy and precipitation frequent, widespread, and mostly light. San Diego received a downpour of more than 2 inches and Tuscon about 1.5 inches. More than 2 inches fell on the gulf coast from Victoria, Texas, to Jacksonville, Florida. New Orleans reported 6.6 inches.

SNOW: Light snow fell from the northern Great Plains to New England and was heavier near Lake Superior. Snow was heavy in the mountains of Arizona, New Mexico, and portions of the central Great Plains. Snow depths reached 14 inches at Flagstaff, Arizona; 13 inches at Lamar, Colorado; and 6 inches in parts of Kansas. Snow depths reached 29 inches at Hibbing, Minnesota, and 5 to 11 inches near Fargo, North Dakota. Ski resort conditions were apparently excellent in most of the Rockies, in the northern Wisconsin area, and in northerly locations of the Northeast. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

SOUTHWESTERN CORN BORER (Zeadiatraea grandiosella) - ALABAMA - Survey for 1965 completed week of November 5. Pest found in 2 new counties, Dallas and Madison. Accompanying map shows present known distribution of pest in State since first discovery in 1962 in Pickens County. Spot locations show approximate areas in these counties where infestations found during survey. (McQueen).

Southwestern Corn Borer Survey in Alabama as of November 5



ARMY CUTWORM (Chorizagrotis auxiliaris) - OKLAHOMA - Noted in occasional wheat fields in Major, Alfalfa, Garfield, and Kingfisher Counties. Ranged 0.5-3 per linear foot. This is the first report of activity this season. (Okla. Coop. Sur.).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Heavy, 1,000-2,000 per square foot, in overwintering alfalfa in Woods, Alfalfa, and Garfield Counties. (Okla. Coop. Sur.). ARKANSAS - First specimens for some time collected in northwest area; numbers low; 75-100 per 100 sweeps. (Ark. Ins. Sur.).

PEA APHID (Acyrthosiphon pisum) - NEW MEXICO - Light to medium on alfalfa in Quay, Roosevelt, Curry and Dona Ana Counties. (Kloepfer, Mathews). ARKANSAS - Built up slightly in northwest area; relatively low. (Ark. Ins. Sur.). OKLAHOMA - Ranged 600-1,000 per square foot in overwintering alfalfa in Woods, Alfalfa and Garfield Counties. (Okla. Coop. Sur.).

AN APHID (Rhopalosiphum padi) - OKLAHOMA - Ranged 4-25 per linear foot in wheat checked in northwest, north central and central areas. (Okla. Coop. Sur.).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Ranged 3-50 per linear foot in wheat in northwest, north central, and central areas. (Okla. Coop. Sur.).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Highest counts up to 50 per linear foot in wheat in the Hennessey area, Kingfisher County; other counts in county ranged 3-25 per linear foot. Ranged 1-20 per linear foot in fields checked in Major, Woods, Alfalfa, Garfield, Caddo, and Grady Counties. (Okla. Coop. Sur.).

TARNISHED PLANT BUG (Lygus lineolaris) - ARKANSAS - Small numbers of adults in alfalfa and small grain in northwest area. (Ark. Ins. Sur.).

ALFALFA WEEVIL (Hypera postica) - OHIO - Adults active on warm days in southern area; 2 per 10 sweeps in Lawrence County and 3 per 20 sweeps collected in Meigs County. (Flessel, Dec. 14).

HESSIAN FLY (Mayetiola destructor) - NORTH CAROLINA - Damaged field of wheat in Wake County. (Woodard).

AN ERIOCOCCID SCALE (Eriococcus sp.) - NORTH CAROLINA - Collected from American beachgrass at Manteo, Dare County, on August 17. Det. by D. J. Williams. (Mount).

WINTER GRAIN MITE (Penthaleus major) - OKLAHOMA - Present in most wheat fields checked in Major, Woods, Kingfisher, and Garfield Counties; ranged 5-50 per linear foot. (Okla. Coop. Sur.).

FRUIT INSECTS

PEACH TREE BORER (Sanninoidea exitiosa) - NEW MEXICO - Larvae causing heavy damage to peach trees in Bernalillo County. (Heninger).

LESSER PEACH TREE BORER (Synanthedon pictipes) - NEW MEXICO - Moderate damage noted on peach trees in Bernalillo County. (Heninger).

PECAN WEEVIL (Curculio caryae) - ALABAMA - Although pecan crop in St. Clair County fair to good, damage reported as heavy. Damage not too apparent until nuts fall; larvae emerging for pupation. Heavy damage by C. caryae and Laspeyresia caryana (hickory shuckworm) continues serious on marketed nuts in Covington County. These pests, along with diseases, heavy and serious on estimated 90 percent of crop harvested in Geneva County. (Jackson, Linder, Smith).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Adults taken from sticky board traps in calamodin, mango, and Surinam-cherry trees in several places in Fort Myers, and one locality at Bonita Springs, Lee County. (Croyle, Dec. 3). This is a new county record and the westernmost record for State. Larvae collected in fruits of calamodin and common guava at Belle Glade and Pahokee (Dec. 20), Palm Beach County; adults taken from sticky board traps in guava at Pahokee (Smith, Nov. 23). Generally, larvae and adults of both sexes continue common in the infested areas, with most records still coming from the lower east coast. (Fla. Coop. Sur., Dec. 10).

A WEEVIL (Artipus floridanus) - FLORIDA - Adults generally infesting and lightly damaging stem and leaves of citrus at Cocoa, Brevard County. (Henderson, Smith, Walker, Dec. 7). Damage quite extensive in several groves from Titusville to Cocoa. (Fla. Coop. Sur.).

CHAFF SCALE (Parlatoria pergandii) - FLORIDA - All stages localized and severely damaging stem, leaves, fruit and bark of kumquat at farm supply at Fort Myers, Lee County. (Nelson, Walsh, Dec. 3).

GLOVER SCALE (Lepidosaphes gloverii) - FLORIDA - All stages general and lightly to severely damaging stem and leaves of citrus in nursery at Bay Lake, Lake County. (Henderson, Dec. 8).

TEXAS CITRUS MITE (Eutetranychus banksi) - FLORIDA - Generally infesting and severely damaging leaves of Cleopatra Mandarin, and scattered moderately on leaves of sour orange at Lockhart, Seminole County. (J. T. Denmark, Dec. 6).

BROAD MITE (Hemitarsonemus latus) - FLORIDA - Adults caused moderate to severe damage to stem and leaves of Milam lemon at Winter Haven, Polk County. (Youtsey, Nov. 29).

Citrus Insect Situation in Florida - End of November - CITRUS RUST MITE (Phyllocoptruta oleivora) infested 79 percent of groves (norm 71 percent); 56 percent economic (norm 47 percent). Population will decrease slightly from mid-December through January but continue above average and in high range with heavy infestations in 25-30 percent of groves. Heavier on leaves than fruit except in east district. All districts high. TEXAS CITRUS MITE (Eutetranychus banksi) infested 34 percent of groves (norm 46 percent); 14 percent economic (norm 19 percent). In low range and below normal for November. Increase expected but few groves will have

important infestations. All districts low. CITRUS RED MITE (Panonychus citri) infested 26 percent of groves (norm 54 percent); 6 percent economic (norm 24 percent). Continues near lowest levels on record. Slight increase expected. All districts will remain low. GLOVER SCALE (Lepidosaphes gloverii) infested 74 percent of groves; 13 percent economic. Population above average; slight increase expected. Highest district south. PURPLE SCALE (L. beckii) infested 68 percent of groves; 9 percent economic. Near average; little change expected. Highest district south. CHAFF SCALE (Parlatoria pergandii) infested 52 percent of groves; 7 percent economic. Below average and decreasing. All districts will remain low. YELLOW SCALE (Aonidiella citrina) infested 59 percent of groves; 12 percent economic. Population highest on record for November; little change expected. Highest district central. WHITEFLIES will increase, but will be at moderate level. (W. A. Simanton (Citrus Expt. Sta., Lake Alfred)).

TRUCK CROP INSECTS

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - FLORIDA - Larvae and adults generally infesting and moderately damaging stem and leaves of sweetpotato at Quincy, Gadsden County, (Miller, Dillon, Nov. 18); and at Gainesville, Alachua County. (Hetrick, Nov. 23).

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - Caused light to moderate damage to 200 commercial cabbage plants at Sanford, Seminole County. (Desin, Dec. 7).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

A NOCTUID MOTH (Melipotis acontioides) - FLORIDA - Larvae severely damaging stem and leaves of royal poinciana at Miami, Dade County. (Meyer, McFarlin, Nov. 19).

A CONIFER APHID (Cinara tujafilina) - OKLAHOMA - Heavy on arborvitae in many areas in eastern half of State; controls needed in several counties. (Okla. Coop. Sur.).

AZALEA WHITEFLY (Pealius azaleae) - OHIO - Collected on October 5 in nursery at Painesville, Lake County, by J. T. Walker. Det. by L. M. Russell. This is the earliest record of P. azaleae in State. (Davis, Rose). Earlier report in CEIR 15(37): 1077 of this species on Chinese azaleas around homes in Lake County in error; specimens determined as Trialeurodes packardi (strawberry whitefly) by Miss Russell. (Jones, Walker).

CUBAN-LAUREL THRIPS (Gynaikothrips ficorum) - FLORIDA - Adults generally infesting and severely damaging India-laurel fig (Ficus retusa) in nursery at Terra Ceia, Manatee County. (Bickner, Nov. 22).

A DRYWOOD TERMITE (Kalotermes approximatus) - NORTH CAROLINA - Specimens collected from white oak tree near Newton Grove reported in CEIR 15(25): 655 confirmed by T. E. Snyder. This is a new State record. (Mount).

A FALSE SPIDER MITE (Tenuipalpus pacificus) - FLORIDA - Adults scattered and severely damaging cattleya orchid in nursery at Altamonte Springs, Seminole County. (McLeod, J. T. Denmark, Nov. 24).

A SPIDER MITE (Eotetranychus lewisi) - FLORIDA - Adults general and severely damaged poinsettia in nursery at Lockhart, Seminole County. (J. T. Denmark, Dec. 6). Moderately damaged leaves of same host at Lake Helen, Volusia County. (Roberts, Dec. 7).

Coccids in Florida - All stages of Ischnaspis longirostris generally infesting and severely damaging leaves of Elaeagnus pungens var. aurea, in nursery and landscaping company at South Miami, Dade County. (Swanson, Dec. 1). Chrysomphalus aonidum general and severely damaging queen sago, (Cycas circinalis) in a nursery at Terra Ceia, Manatee County. (Bickner, Nov. 22). Aspidiotus perniciosus adults

generally infesting and severely damaging stem of Photinia serrulata in nursery at Miami, Dade County. (Meyer, McFarlin, Nov. 15). All stages of Fiorinia theae general and severely damaged leaves of Burford holly in nursery at Paisley, Lake County. (Fatic, Nov. 23). Orthezia insignis localized and severely damaging stem and leaves of Texas sage at Fort Myers, Lee County. (Nelson, Walsh, Dec. 3). All stages of Pseudococcus adonidum generally infesting and severely damaging stem and leaves of leatherleaf fern (Polystichum adiantiforme) and pothos (Scindapsus aureus), in fernery at Altamonte Spring, Seminole County. (McLeod, Denmark, Nov. 24). Asterolecanium pustulans moderately to severely damaged stem of fig at Indian Rock Beach, Pinellas County. (Bingaman, Nov. 18).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - FLORIDA - Adults of Anopheles quadrimaculatus moderately common in a hunting reserve biting deer hunters at Lacoochee, Pasco County. (O'Berry, Dec. 11). LOUISIANA - Larval collections by Jefferson Parish Department of Mosquito Control during period contained: Anopheles crucians, Culex pipiens quinquefasciatus, Culex salinarius and Culiseta inornata. Light trap collections increased slightly due to unseasonably warm weather with C. salinarius predominant. (Stokes).

SHEEP KED (Melophagus ovinus) - OHIO - Abundant on group of sheep at a market in Auglaize County; few were noted on sheep in Pickaway County. Most sheep examined appeared to be free of this parasite. (Rose).

HOG LOUSE (Haematopinus suis) - OHIO - Examination of hogs at livestock auction markets in Auglaize, Hancock, Champaign, Pickaway, and Fayette Counties indicated noneconomic populations of lice and other ectoparasites. H. suis generally distributed but not in economic numbers. Two pens of young pigs involving about 30 animals in Champaign County nearly 100 percent infested with 3-6 per animal. (Rose). OKLAHOMA - Heavy on hogs in Wagoner County. (Okla. Coop. Sur.).

BIRD TICK (Haemaphysalis chordeilis) - FLORIDA - Adult found on Brown Thrasher at Otter Creek, Levy County. (O'Berry, Nov. 21).

A BROWN SPIDER (Loxosceles reclusa) - LOUISIANA - Recorded for the first time in Jefferson Parish. Three specimens were discovered. (Stokes).

HOUSEHOLD AND STRUCTURAL INSECTS

MILLIPEDS - OHIO - Large numbers crawling up sides of home in Columbus, Franklin County. (Walker, Dec. 15). MARYLAND - Entered homes locally in Talbot and Wicomico Counties. (U. Md., Ent. Dept.).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - MINNESOTA - Infested two additional St. Paul homes. (Minn. Ins. Sur.).

STORED-PRODUCT INSECTS

SWEETPOTATO WEEVIL (Cylas formicarius elegantulus) - ALABAMA - Infested stored sweetpotatoes in Coffee, Houston and Geneva Counties. (Speed, Johnson, Stephenson).

FLAT GRAIN BEETLE (Cryptolestes pusillus) - MARYLAND - Medium in stored corn at Salisbury, Wicomico County. (U. Md., Ent. Dept.).

FLOUR BEETLES (Tribolium spp.) - MARYLAND - T. confusum and T. castaneum heavy in stored corn at Salisbury, Wicomico County. (U. Md., Ent. Dept.).

FOREIGN GRAIN BEETLE (Ahasverus advena) - MARYLAND - Medium in stored corn at Salisbury, Wicomico County. (U. Md., Ent. Dept.).

BENEFICIAL INSECTS

DAMSEL BUGS (Nabis spp.) - ARKANSAS - Active in alfalfa on warm days in northwest. (Ark. Ins. Sur.).

Mites Found in Alfalfa Weevil Oviposition

Punctures in Western Massachusetts

On several occasions in 1965 mites were found in egg chambers of alfalfa weevil (Hypera postica). Numerous mites were taken from 4 egg chambers in alfalfa collected October 20 at the Clayton Farm at New Marlboro, Berkshire County. A stem collection from the same locality on October 26 revealed a large red mite crawling over eggs of alfalfa weevil in an egg chamber. Determinations were made by E. W. Baker. The mites collected October 20 were Tydeus sp. Mites of this genus feed on fungi as most are associated with the presence of fungi; however, some species are predaceous. The large red mite collected October 26 was determined as Leptus sp.; members of this genus are parasites of arthropods as larvae. (M. C. Miller).

MISCELLANEOUS INSECTS

COTTONY-CUSHION SCALE (Icerya purchasi) - FLORIDA - All stages general and caused moderate to severe damage to stem and leaves of tungnut tree at 2 locations in Monticello, Jefferson County, and two locations in Tallahassee, Leon County. (Miller, Dillon, Dec. 7).

CORRECTIONS

CEIR 15(37): 1077 - WHITEFLIES - OHIO - Delete note; see remarks under azalea whitefly (Pealius azaleae) on page 1337.

CEIR 15(50): 1309 - HIGHLIGHTS - Note should read: GREENBUG increasing on wheat in Oklahoma.

LIGHT TRAP COLLECTIONS

FLORIDA (Gainesville, 11/29) (blacklight) - Agrotis ipsilon 1, Feltia subterranea 1, Prodenia ornithogalli 1, (Gainesville, 12/14) (blacklight) - A. ipsilon 1, Pseudaletia unipuncta 1.

GEORGIA (Tifton, 12/9-15) (Temp. 28-71° F.; precip. 0.5 in.; blacklight) - Heliothis zea 0, H. virescens 0, Protoparce quinquemaculata 0, P. sexta 0.

SOUTH CAROLINA (Charleston, 12/6-12) (Temp. 23-74° F.; precip. 0.20 in.; blacklight) - P. unipuncta 6, Spodoptera frugiperda 7, P. ornithogalli 0, A. ipsilon 7, F. subterranea 4, Peridroma saucia 0, H. zea 2, H. virescens 0, P. sexta 0, P. quinquemaculata 0, Estigmene acrea 0, Trichoplusia ni 0.

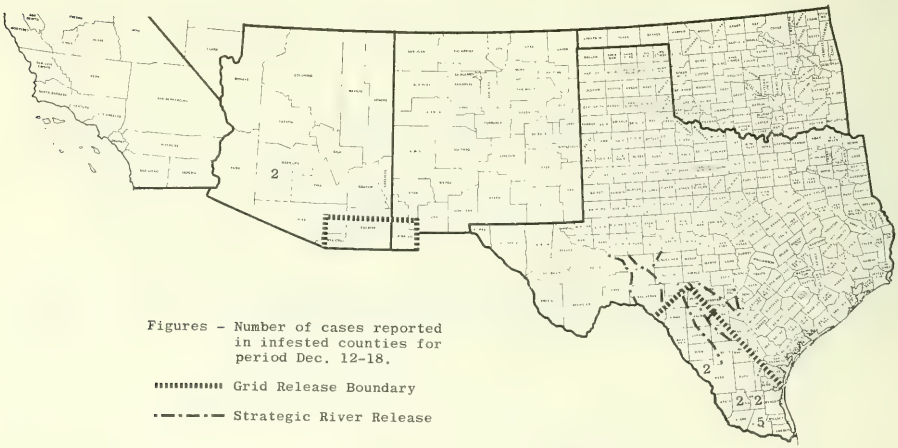
STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period December 12-18, a total of 13 cases was reported in the Southwestern Eradication Area by States and counties as follows: TEXAS - Hidalgo 5, Webb 2, Brooks 2, Jim Hogg 2; ARIZONA - Maricopa 2. The Republic of Mexico reported 78 cases: Sonora 6, Coahuila 4, Chihuahua 31, Nuevo Leon 3, Tamaulipas 20, Territorio sur de Baja California 14. Sterile screw-worm flies released: Texas 19,406,250, Arizona 3,400,000, New Mexico 600,000, and Mexico 25,538,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	11	6350	19	7319	57.89	86.76
1964	0	237	21	6174	0.00	3.83
1965	13	1011	67	5006	19.40	20.19
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	94	4442	27	2045	348.14	217.21
1965	91	5591	35	2245	260.00	249.04

Feasibility Survey - During this period, 150 cases were identified in Mexico south of the Barrier Zone, as follows: Yucatan 10, Veracruz 45, Tabasco 6, Oaxaca 3, Chiapas 11, Jalisco 5, Michoacan 4, Guerrero 20, Puebla 8, Guanajuato 7, San Luis Potosi 5, Durango 16, Sinaloa 6, Nyarit 2, Morelos 1, Queretaro 1.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).



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Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL DIVISION

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 15 December 31, 1965 Number 53

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

EUROPEAN CHAFER larvae damaged many lawns in East Cleveland, Ohio. (p. 1343).

Control of all known infestations of SOUTHERN PINE BEETLE in Texas in prospect. (p. 1345).

Large population of RED FLOUR BEETLE in grain warehouse in Clovis, New Mexico, requires controls. (p. 1346).

No extensions of CITRUS WHITEFLY infestations found in California; treatments underway. (p. 1347).

DETECTION

New State records reported include a SPIDER MITE (Tetranychus marianae) in San Bernardino County and a PYEMOTID MITE (Siteroptes graminum) in San Diego County, California. (p. 1344). A SUBTERRANEAN TERMITE (Coptotermes vastator) in Honolulu and a PENTATOMID BUG (Thyanta accerra) at Ewa Plantation Village, Hawaii. (p. 1348).

New county records are an ARMORED SCALE (Comstockiella sabalis) in Taylor County (p. 1344) and IMPORTED FIRE ANT in Jefferson County, Florida. (p. 1347).

SPECIAL REPORTS

Hawaiian Insect Notes (p. 1348).

Status of the Screw-worm in the Southwest. (p. 1347).

Reports in this issue are for week ending December 24 unless otherwise indicated.

WEATHER OF THE WEEK ENDING DECEMBER 27

HIGHLIGHTS: (1) Cold west of Rocky Mountains and over Southeast. (2) Warm Rocky Mountains to New England. (3) Floods in normally dry Arizona and near southern Lake Michigan.

TEMPERATURE: Temperatures averaged below normal from the Pacific Ocean to the Rocky Mountains and from Louisiana to South Carolina. In contrast, the week averaged warmer than usual from the northern Great Plains and central and southern Rocky Mountains to New England. Departures of average temperature ranged from minus 9° over south central Idaho to plus 11° over central Iowa, southeastern Minnesota and much of Wisconsin. There was little change in average temperatures west of the Rocky Mountains. Some areas averaged a few degrees warmer, other areas averaged a few degrees cooler than the previous week. It was the fifth consecutive cool week in the interior valleys of California. A dome of high pressure centered over the Southeast at the beginning of the week and produced chilly weather over Florida and nearby States. Chinooks warmed the eastern slopes of the Rocky Mountains and southernly winds brought unseasonably mild weather to much of the Great Plains early in the week. Temperatures in the 60's were common on Wednesday and Thursday as far north as Missouri. As the high moved from the southeastern United States to the Atlantic Ocean, mild temperatures covered the East. Philadelphia, Pennsylvania, registered 61° on Christmas before the passage of a cold front. The cold front passage on Christmas brought near zero temperatures to parts of the northeast by Sunday. At the same time a cold front, trailing from a low centered over the Hudson Bay southward across the central Great Plains, was followed by subzero temperatures as far South as Nebraska, and temperatures ranging from -15° to -20° over parts of North Dakota and Minnesota.

PRECIPITATION: Precipitation was light over Nevada, much of the Great Plains, and the Piedmont section of Georgia and the Carolinas. Heavier rains fell west of the Cascades in Washington and Oregon, over southeastern Arizona, and over a wide band extending from central Oklahoma and eastern Kansas to southern Lower Michigan. The rains over southeastern Arizona and melted snow caused considerable flooding along the streams. Scores of families were forced from their homes and early estimates of damage to roads, bridges, school buildings and other facilities and to farm animals which were drowned were expected to run into the millions of dollars. The storm which moved from the central Great Plains towards Lake Erie and continued to southern New England caused heavy precipitation from Oklahoma City to Detroit. In the Milwaukee, Wisconsin area, wet snow and strong winds caused 40,000 families in several counties to be without electricity. The snow and glaze caused traffic snarles in southern Michigan and nearby portions of Illinois, Indiana, and Ohio. Many rural roads were blocked by drifts. In the Chicago, Illinois area, 100,000 persons were without electricity and 2,000 telephones could not be used. Residents from about 80 homes were forced to move out as the rains and melted snow flooded suburban sections south of Chicago. A third severe storm, this one centered over the coast of Washington and Oregon, produced winds to 90 mph, in gusts and waves to 50 feet. The storm struck the coast producing heavy rains west of the Cascade Mountains and heavy snow at some mountain locations. More about this storm will be included in next weeks weather summary. (Summary supplied by U. S. Weather Bureau).

CEREAL AND FORAGE INSECTS

APHIDS - MICHIGAN - Adults and nymphs of one or more undetermined species were common on barley and volunteer wheat plants sampled December 13 in Shiawassee County. Acyrthosiphon pisum present on small succulent shoots of alfalfa taken at same time. (Dowdy). OKLAHOMA - A. pisum averaged 700 per square foot in scattered fields in Lincoln County and 500 per square foot in Garfield County. Rhopalosiphum padi light, 5-10 per linear foot and R. maidis averaged 7-10 per linear foot in wheat fields in Garfield and Grant Counties. Therioaphis maculata heavy, averaged 1,000 per square foot in scattered fields in Lincoln, Okmulgee, Seminole, Payne and Oklahoma Counties; medium to heavy in Garfield and Grant Counties. Fields being treated in many central and eastern counties. Schizaphis graminum (greenbug) ranged 5-10 per linear foot of row in Garfield and Grant Counties. Light in Kingfisher County and isolated areas in other sections. (Okla. Coop. Sur.). TEXAS - S. graminum per foot of planted row ranged by county as follows: Deaf Smith 10-200, Castro 0-100, Parmer 0-75, Oldham 0-10, Potter 0-30 and Moore 0-75. (Daniels).

WEEVILS (Hypera spp.) - MICHIGAN - Larvae common but hard to find on small green shoots of alfalfa in Shiawassee County field December 13. (Dowdy). ARIZONA - H. brunneipennis larvae averaged 20 per 100 sweeps; three adults found in Yuma County. (Ariz. Coop. Sur., Dec. 17).

WINTER GRAIN MITE (Penthaleus major) - OREGON - Infesting bluegrass and fescue grass fields in the Hubbard area, Marion County. (Foster, Every, Larson). OKLAHOMA - Averaged 10-20 per linear foot in scattered wheat fields in Garfield and Grant Counties. Light to medium in Kingfisher County. (Okla. Coop. Sur.).

THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) - ARIZONA - Ranged 150-200 in Yuma County. (Ariz. Coop. Sur., Dec. 17).

EUROPEAN CHAFER (Amphimallon majalis) - PENNSYLVANIA - Total of 4,000 acres treated in fall; 3,000 acres to be treated in spring. (Ekess, Dec. 18). OHIO - Many lawns in residential areas of East Cleveland, where heaviest infestations occurred, in very poor condition; many grubs in upper inch of soil; damage to turf very evident and severe. Grub counts in heaviest infested areas showed 12 per square foot. (PPC Cent. Reg., Nov. Rpt.).

FRUIT INSECTS

WESTERN PEACH TREE BORER (Sanninoidea exitiosa graefi) - CALIFORNIA - Larvae medium in trunk and roots of peach nursery stock in Hayward, Alameda County. (Cal. Coop. Rpt., Dec. 17).

A LEAF ROLLER MOTH (Ptycholoma peritana) - CALIFORNIA - Larvae medium on grapes in Selma, Fresno County. Fruit and foliage damaged. (Cal. Coop. Rpt., Dec. 17).

CITROPHILUS MEALYBUG (Pseudococcus fragilis) - CALIFORNIA - Locally medium on cherimoya trees in Carlsbad, San Diego County. (Cal. Coop. Rpt., Dec. 17).

SAN JOSE SCALE (Aspidiotus perniciosus) - ALABAMA - Light to medium on peach, plum and flowering peach in fruit and ornamental plantings in Lee County. (McQueen).

A FRUIT FLY (Anastrepha suspensa) - FLORIDA - Larvae and adults continue common in Palm Beach, Broward, and Dade Counties. Larvae taken from fruits of calamondin. (Fla. Coop. Sur.).

TRUCK CROP INSECTS

A LEAF ROLLER MOTH (Ptycholoma peritana) - CALIFORNIA - Larvae medium in petioles of garden beets locally in Selma and light on strawberry leaves in Fowler, Fresno County. (Cal. Coop. Rpt., Dec. 17).

TOMATO PINWORM (Keiferia lycopersicella) - CALIFORNIA - Locally heavy in tomato plantings in Carlsbad, San Diego County. (Cal. Coop. Rpt.).

OLEANDER SCALE (Aspidiotus hederae) - CALIFORNIA - Medium populations on Chinese gooseberry fruit in U.S. Plant Introduction Station, Chico, Butte County. (Cal. Coop. Rpt.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Medium on beans near Armona, Kings County. (Cal. Coop. Rpt.).

COTTON INSECTS

A WEEVIL (Anthonomus sp.) - ARIZONA - Infestation found on Yuma Mesa, Yuma County; westernmost field infestation found this year. (Ariz. Coop. Sur.).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

ARMORED SCALES - FLORIDA - Diaspis boisduvalii adults general and severely damaging leaves of 1,000 cattleya orchids in greenhouse at Longwood, Seminole County. Controls applied. (J. T. Denmark, Dec. 14). Fiorinia theae severe on camellia plants in nurseries at Ocoee, Orange County, (Ware, Dec. 14); Sun City Center, Hillsborough County, (Hale, Dec. 16); and Titusville, Brevard County, (Levan, Dec. 17). Comstockiella sabalis taken on cabbage palm at Perry, Taylor County. This is a new county record. (Davis, Dec. 13). MARYLAND - Unaspis euonymi heavy on euonymus hedge at Landover Hills, Prince Georges County. (U. Md., Ent. Dept.). CALIFORNIA - Nymphs and adults of U. euonymi heavy on euonymus plants locally in Palo Alto, Santa Clara County. Aspidiotus hederae heavy locally on California-laurel in Lagunitas, Marin County. A. densiflorae heavy on tanbark oak in Inverness, Marin County. (Cal. Coop. Rpt., Dec. 17). Chrysomphalus rossi heavy on Araucaria bidwilli trees in downtown San Luis Obispo, San Luis Obispo County. Lepidosaphes ulmi heavy on ceanothus plants in South San Francisco, San Mateo County. (Cal. Coop. Rpt.).

APHIDS - CALIFORNIA - Thoracaphis umbellulariae heavy locally on California-laurel in Lagunitas, Marin County. Lachnus salignus locally heavy on willow in Glencoe, Calaveras County. (Dec. 17). Locally heavy on weeping willow trees in Fresno, Fresno County. (Cal. Coop. Rpt.). ALABAMA - Prociphilus tessellatus (woolly alder aphid) heavy on alders along streams and lake shorelines. (McQueen).

A PYEMOTID MITE (Siteroptes graminum) - CALIFORNIA - Collected for first time in State November 22 by K. Sims in flowers and buds of carnations at Carlsbad, San Diego County. Confirmed by E. W. Baker. Species introduces spores of Fusarium poae which causes bud rot. (Cal. Coop. Rpt.).

A SPIDER MITE (Tetranychus marianae) - CALIFORNIA - Species reported as Tetranychus spp. in CEIR 15(50): 1315 in Fontana, San Bernardino County, determined as this species by E. W. Baker. This is a new State record. (Cal. Coop. Rpt.).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - CALIFORNIA - Eggs and adults heavy on wild nightshade plants in Encinitas, San Diego County. (Cal. Coop. Rpt., Dec. 17). UTAH - Discoloring foliage of white sweet clover and other plants in experimental greenhouse at Logan, Cache County. (Knowlton).

TOMATO RUSSET MITE (Aculus lycopersici) - CALIFORNIA - Heavy on wild nightshade in Encinitas, San Diego County; mite overwinters on this host in tomato-growing areas. (Cal. Coop. Rpt., Dec. 17).

PRIVET MITE (Brevipalpus obovatus) - CALIFORNIA - Medium on hypericum plants locally in Oroville, Butte County. (Cal. Coop. Rpt., Dec. 17).

A BARK BEETLE (Phleosinus cristatus) - CALIFORNIA - Adults heavy in Cupressus macnabiana in Paradise, Butte County. (Cal. Coop. Rpt., Dec. 17).

A WEEVIL (Apion sordidum) - CALIFORNIA - Collected in Solamint, Los Angeles County, in May from button sage. Det. by D. S. Kissinger. Beekeepers indicate that weevil kills mint flower heads. (Cal. Coop. Rpt., Dec. 17).

SOUTHERN PINE BEETLE (Dendroctonus frontalis) - TEXAS - During November, total of 26 spots detected in Hardin, Jasper, Liberty, Newton, Orange, Polk, and Tyler Counties. Control of all known infestations by the end of year in prospect. (Texas For. Pest Comm.; Williamson).

BLACK TURPENTINE BEETLE (Dendrotonus terebrans) - TEXAS - Controls used on National forest land in Walker and Montgomery Counties. Damage found on about 100 acres; 103 trees treated during November. (Texas For. Pest Comm.; Williamson).

AN OLETHREUTID MOTH (Petrova sp.) - CALIFORNIA - Larvae, probably this genus, heavy on Jeffrey pine trees in Pinehurst plantation, Fresno County. Larvae girdling small trees. (H. B. Teillon, USFS).

CALIFORNIA OAKWORM (Phryganidia californica) - CALIFORNIA - Larvae, probably this species, feeding on live oak foliage in Olema, Marin County. (Cal. Coop. Rpt., Dec. 17).

BLACK CUTWORM (Agrotis ipsilon) - ARIZONA - Caused heavy damage to many bedding plants in Yuma area. (Ariz. Coop. Sur., Dec. 17).

ORANGE TORTRIX (Argyrotaenia citrana) - OREGON - Larvae and adults generally infesting and severely damaging propagating plants in many greenhouses of Willamette Valley. Numbers of infestations are higher than previous years. (Bock).

GREENHOUSE THRIPS (Heliothrips haemorrhoidalis) - CALIFORNIA - Nymphs and adults heavy on hypericum plants in Oroville, Butte County. (Cal. Coop. Rpt., Dec. 17).

GRAY GARDEN SLUG (Deroceras reticulatum) - CALIFORNIA - Heavy on dichondra lawn locally in Anaheim, Orange County. (Cal. Coop. Rpt., Dec. 17).

A LAND SNAIL (Otala lactea) - CALIFORNIA - Light on nursery stock in Mountain View, Santa Clara County, and heavy on anise plants locally in San Rafael, Marin County. (Cal. Coop. Rpt., Dec. 17).

INSECTS AFFECTING MAN AND ANIMALS

MOSQUITOES - TEXAS - Culex salinarius caused principal annoyance during November in Jefferson County area. Covered considerable area of the county in large numbers. Moderate numbers extended throughout the area under observation. C. salinarius abundant in the Port Arthur area; normal for this time of year. Aedes sollicitans minor importance during the month; trap counts of 8 per night maximum number recorded. Considerable numbers of Psorophora confinnis occurred November 15-20 in northern Beaumont. One flight averaged over 100 per night in northern light trap. P. confinnis not usually so numerous at this time of year. Culiseta inornata specimens collected in areas of Jefferson County; light trap count of 10 per night. Aedes vexans continued common in southern portion of Beaumont. Anopheles crucians, A. quadrimaculatus, Uranotaenia sapphirina, U. lowii and Aedes taeniorhynchus occurred in small numbers throughout Jefferson County. Three specimens identified as probably Uranotaenia anhydor syntheta occurred in north Beaumont trap. Larvae of Psorophora confinnis, Aedes vexans and Culex restuans collected during November. (Texas Mosq. Cont. Comm., Nov. Rpt.; Thomason).
LOUISIANA - Larval collections by Jefferson Parish Department of Mosquito Control contained: Aedes sollicitans, Aedes triseriatus, Aedes vexans, Culex pipiens quinquefasciatus, Culex restuans, Culex salinarius, Culex tarsalis, and Culiseta inornata. C. inornata increased in light trap collections although total collections decreased due to colder weather. (Stokes).

COMMON CATTLE GRUB (Hypoderma lineatum) - OKLAHOMA - Ranged 0-65 per head on untreated cows in Garvin County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - OKLAHOMA - Ranged up to 5 per animal on scattered cows in Garvin County. (Okla. Coop. Sur.).

A LOUSE FLY (Lipoptena cervi) - PENNSYLVANIA - Specimens, probably this species, collected from deer in Clinton County in early December. Det. by R. Snetsinger. (Helstrom).

PACIFIC COAST TICK (Dermacentor occidentalis) - CALIFORNIA - Adult taken off child in Santa Barbara County. (Cal. Coop. Rpt.).

A TICK (Ixodes pacificus) - CALIFORNIA - Heavy on people and dogs locally in Pine Grove, Amador County. (Cal. Coop. Rpt.).

HOUSEHOLD AND STRUCTURAL INSECTS

WESTERN SUBTERRANEAN TERMITE (Reticulitermes hesperus) - CALIFORNIA - Heavy in city center building in Eureka, Humboldt County. (Cal. Coop. Rpt.).

A SUBTERRANEAN TERMITE (Reticulitermes tibialis) - OREGON - Infesting trailer house in Coos County. Det. by T. E. Snyder. (Every).

WINTER GRAIN MITE (Penthaleus major) - PENNSYLVANIA - Very heavy in home at Hollidaysburg, Blair County; det. by R. Snetsinger. (Udine, Dec. 13).

LARGER YELLOW ANT (Acanthomyops interjectus) - MARYLAND - Winged forms swarmed in enclosed porch of home in Bethesda, Montgomery County. (U. Md., Ent. Dept.).

MILLIPEDS - MARYLAND - Large numbers entered house at Burtonsville, Montgomery county. (U. Md., Ent. Dept., Dec. 17).

STORED-PRODUCT INSECTS

WHITE-MARKED SPIDER BEETLE (Ptinus fur) - CALIFORNIA - Larvae and pupae heavy in dry dog food in a market in Downieville, Sierra County. (Cal. Coop. Rpt.).

RED FLOUR BEETLE (Tribolium castaneum) - CALIFORNIA - Adults heavy in oat seed in mill in Montague, Siskiyou County. (Cal. Coop. Rpt., Dec. 17). NEW MEXICO - Large population in grain warehouse in Clovis, Curry County. Controls in progress. (Kloepfer, Mathews).

CONFUSED FLOUR BEETLE (Tribolium confusum) - NEW MEXICO - Heavy on sacked feed in commercial warehouse in Los Lunas, Valencia County. (Heninger).

SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) - NEW MEXICO - Present on sacked feed, spilled feed and walls in warehouse in Los Lunas, Valencia County. (Heninger).

RICE WEEVIL (Sitophilus oryzae) - ALABAMA - Light to medium in stored corn in Lee County. (McQueen).

SQUARE-NECKED GRAIN BEETLE (Cathartus quadricollis) - ALABAMA - This and Sitotroga cerealella (Angoumois grain moth) light in stored corn in Lee County. (McQueen).

INDIAN MEAL MOTH (Plodia interpunctella) - NEW MEXICO - Adults light to heavy; cocoons covering many sacks in commercial warehouses in Bernalillo, San Juan and Curry Counties. (Mathews, Kloepfer, Heninger).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (Solenopsis saevissima richteri) - FLORIDA - Found in Jefferson County near the Leon County line. This is a new County record. (PPC South. Reg., Nov. Rpt.).

WHITE-FRINGED BEETLES (Graphognathus spp.) - KENTUCKY - Aerial treatment in Hickman area completed November 10. (PPC Cent. Reg., Nov. Rpt.).

CITRUS WHITEFLY (Dialeurodes citri) - CALIFORNIA - Total of 74 residential blocks now sprayed in Sacramento, Sacramento County. Survey crews inspecting area outside treatment zone. Treatment began in Fresno, Fresno County. Surveys continuing; no extension of infestation found. (Cal. Coop. Rpt.).

A LAND SNAIL (Cionella lubrica) - PENNSYLVANIA - Great numbers of probably this species noted in several places around homes in western area this fall. (Udine).

LIGHT TRAP COLLECTIONS

GEORGIA (Tifton, 12/16-22) (Temp. 36-59°F.; precip. 0.65 in.; blacklight) - Heliothis zea 1, H. virescens 0, Protoparce quinquemaculata 0, P. sexta 0.

STATUS OF THE SCREW-WORM (Cochliomyia hominivorax) IN THE SOUTHWEST

During the period December 19-25, a total of 10 cases was reported in the Southwestern Eradication Area by State and counties as follows: TEXAS - Hidalgo 4, Starr 2, Jim Wells, Jim Hogg, Brooks and Kenedy 1 each. The Republic of Mexico reported 51 cases: Sonora 5, Coahuila 3, Nuevo Leon 5, Tamaulipas 17, Chihuahua 11, Territorio sur de Baja California 10. Sterile screw-worm flies released: Texas 18,686,250, New Mexico 800,000, Arizona 3,048,000, Mexico 66,780,000.

	Positive Cases		Negative Cases		Ratio of Positive Cases to 100 Cases Negative	
Year	Current	Cumulative	Current	Cumulative	Current	Cumulative
Table 1. Comparison of specimens reported during corresponding week in 1963 and 1964 in Southwestern Eradication Area. (1965 area figures include cases reported from Arizona and/or California; 1964 figures reflect those from the 5-State area).						
1963	0	6350	5	7324	0.00	86.70
1964	0	237	18	6192	0.00	3.82
1965	10	1021	27	5029	37.03	20.30
Table 2. Comparison of specimens reported during corresponding week and in a corresponding area in 1964 in the United States-Mexico Barrier Zone.*						
1964	57	4499	15	2060	380.00	218.39
1965	60	5651	17	2262	352.94	249.82

Feasibility Survey - During this period, 313 cases were identified in Mexico south of the Barrier Zone as follows: Jalisco 22, Zacatecas 2, Guerrero 52, Durango 13, Michoacan 10, Puebla 12, Chiapas 20, Tobasco 6, Guanajuato 4, Oaxaca 10, Campeche 3, Nayarit 6, San Luis Potosi 8, Veracruz 77, Yucatan 59, Hidalgo 0, Queretaro 1, Sinaloa 4, Morelos 1, Colima 3.

* Barrier Zone - Area in which screw-worm eradication operations are being carried out in an effort to prevent establishment of self-sustaining screw-worm populations in the United States. (Anim. Health Div.).

HAWAIIAN INSECT NOTES

The following notes on Hawaii insect conditions were presented at the meeting of the Hawaiian Entomological Society held in December 1965.

A SUBTERRANEAN TERMITE (Coptotermes vastator Light) was collected from poinsettia stumps and roots in Honolulu, Honolulu County, by D. Lewis on July 1, 1963. Specimens were determined by Dr. Frances Weesner Lechleitner and confirmed by Dr. S. S. Krishna and Dr. T. E. Snyder. This is a new State record. (H. A. Bess).

A specimen of a GRASSHOPPER (Schistocerca vaga Scudder) was recently collected in an automobile at the Kapalama Military Reservation. (B. Sugarman).

A single specimen of CLOVER LEAF WEEVIL (Hypera punctata (F.)) was collected in a light trap at Ewa, Oahu, Honolulu County, during week of November 22-29. (F. A. Bianchi).

Larvae of a leaf skeletonizing HELIODINID MOTH (Schreckensteinia festaliella Hübner) damaged leaves of blackberry at Kokee, Kauai County. This insect was introduced from California in 1963 and is now established at Kokee, Maui, and at Olinda, Maui. GREENHOUSE THRIPS (Heliothrips haemorrhoidalis (Bouché)) was also active on blackberry foliage. (C. J. Davis).

SOUTHERN HOUSE MOSQUITO (Culex pipiens quinquefasciatus Say) was found breeding at the Pohakuloa Nene farm of State Fish and Game Division in early November by Ah Fat Lee. Larvae were found breeding in one of the concrete pools of an unused pen. Further survey by Masato Kobatake disclosed additional Culex breeding in a tub adjacent to the nene pens and in a nene field watering trough. Egg rafts and larvae were collected. The elevation of Pohakuloa Nene farm is situated approximately 6,500 feet and thus is the highest altitude at which actual breeding of this mosquito has been observed and confirmed. Breeding was first observed at this site about 5 years ago. (G. Komatsu).

A specimen of a FLAT BUG (Mezira membranacea (F.)) was collected at Hilo, Hawaii County, by Benjamin Hu at a papaya packing shed. This is the second record of this aradid bug on Hawaii. (E. S. Shiroma).

Adults and nymphs of a LYGAEID BUG (Nysius terrestris Usinger) were intercepted on Norfolk Island-pine (Araucaria excelsa) at Hilo on November 9; trees were from Pahoa, Hawaii, for export to California. This constitutes a new host record for this lygaeid bug. (E. S. Shiroma).

Several adults and nymphs of a PENTATOMID BUG (Thyanta accerra (McAtee) were collected on yard-long beans at Ewa Plantation Village about 0.75 mile south of the Ewa Plantation Company mill by Mohammad Shahjahan on October 23 and 27. Additional specimens were collected at the same locality by Dr. J. W. Beardsley and Dr. W. C. Mitchell on November 1. This pentatomid appears to be well established in this particular area, but at present is less abundant than Nezara viridula (southern green stink bug) there. Det. by P. D. Ashlock. This is a new State record. (J. W. Beardsley). Several nymphs and adults of T. accerra were collected by sweeping weeds and tomato plants during routine survey in the Hickam-Fort Kam area on November 22. Subsequent surveys on November 23, 24 and 29 showed the infestation to be moderate and covering both sides of a dirt road (about 100 yards) in a patch of Acacia farnesiana plants. This is the second location record of this stink bug in the State. Det. by P. D. Ashlock. (E. S. Shiroma).

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Cooperative ECONOMIC INSECT REPORT

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AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

Volume 15 Index

1965

INTRODUCTION

The 1965 index is a consolidated index, with common and scientific names appearing in alphabetical order. There are not two sections as in previous years. Page numbers appear only under the scientific names, except for general common names such as aphids, bees, leafhoppers, mites, etc.

The explanations that follow will aid in the use of the 1965 index.

1. Page numbers underlined represent references to "Summary of Insect Conditions in the United States - 1964".

2. The small ° that follows the common name of certain species in the index indicates that the name is not listed in the "Common Names of Insects" as approved by the Entomological Society of America. Most of these names, however, are of foreign species, and the common names used in the Cooperative Economic Insect Report were taken from literature sources from a country or countries where the species occurs. A few of these so designated common names are species that occur in the United States and are used for convenience.

3. For convenience of use, all references concerning losses and light traps for a particular species are listed at the end of pagination for that species under these two headings.

4. Complete cross indexing of page references of insects with common names is not used. The scientific names should be used to locate all page references, except for those insects or groups of insects where scientific names were not reported. In such instances, page references will be found under common names.

5. A combination of both common and scientific names of an insect or pest may not appear on the page referred, but one or the other will be present.

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